New Type-in Macintosh Programs Inside!

nibble® Mac™

THE · REFERENCE · FOR · MACINTOSH · COMPUTING

MacSprint Your Way to Speedy Reading

MAY/JUNE 1986
VOL. 1/NO. 5
U.S.A. $2.95
CANADA $4.15

MicroPhone, inTouch, Smartcom, Red Ryder Compared

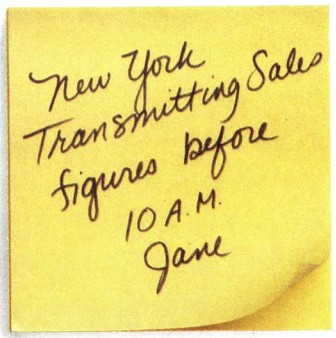
Secrets of MacPaint

Virtually Free Software

Plus MS BASIC Program Shell, Cursor Designer, BASIC-Multiplan Connection, and More!

0 74470 19101 05

Only the Hayes® Transet 1000® can get you out of this one.



© 1986 Hayes Microcomputer Products, Inc.

Now your PC can do three things at once instead of making you wait while it does one thing at once.

We call it *triple tasking*.*

It means you can work with your PC while the Transet 1000 receives your electronic mail and runs your printer for you simultaneously.

Three jobs at once. No waiting.

When you're away from your desk, or at night while your PC is turned off, Transet 1000 serves as an electronic mailbox. Because it has its own independent 128K or 512K memory.

To get the messages that come in through the night, you can call them up on your PC. Access them through a remote modem if you're away from the office.

Or even have them waiting for you in hard copy.

By now it's dawning on you that Transet 1000 can make your PC about three times as productive as it is now. Which is no small statement.

You've also figured out it's more than just a print buffer. More than just a communications buffer. And probably costs a lot. Right?

Wrong!

It costs only $399* for the 128K model which stores up to 90 pages. And only $549* for the 512K version with up to 360 pages of storage.

For more information and specifications, contact your authorized Hayes dealer. Or Hayes directly at (404) 441-1617.

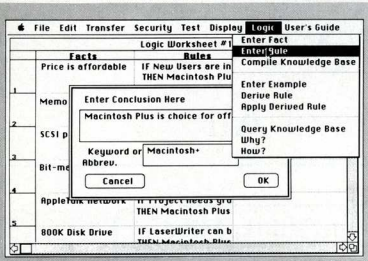
Hayes Microcomputer Products, Inc., P.O. Box 105203, Atlanta, Georgia 30348.

Hayes®

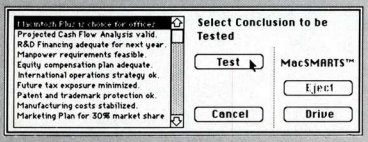
Say yes to the future with Hayes.

*Manufacturer's estimated retail price.

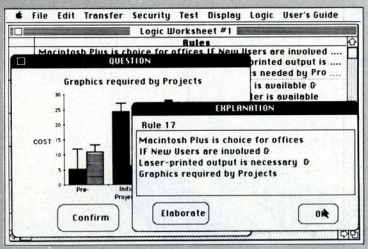
GROW A HEAD.



Start from the top down or the bottom up. MacSMARTS works with you either way all the way—from a gleam in your eye to a complete analysis on the Logic Worksheet.



You've given the Mac some good advice; now reap the rich rewards. Select the conclusions you need to test or show others the way to proceed.



A MacSMARTS program is interactive and can ask you questions for needed information. But you can ask why the answer is needed or how a result is achieved.

Technical Specifications and Features

- Prolog Inference engine
- Integrates logical rules and rule-schema induced from examples
- Up to 4000 rules per knowledge base
- Up to 1000 examples per schematic rule
- Linkage of multiple knowledge bases
- Editor for easy revision of knowledge bases
- Context-sensitive help screens available at all times
- Import/export gateways via clipboard and Switcher™
- Modular compilation of knowledge bases for faster response
- Query-the-user facility linked to text and graphics files
- Works on hard disks for faster operation
- Compatible with HFS and the Macintosh Plus
- Password protection or encryption for protection of sensitive knowledge

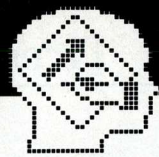
Cognition Technology™

The Intelligence Amplifying Software™

55 Wheeler Street, Cambridge, MA 02138

Copyright ©1986 Cognition Technology Corporation

Apple is a registered trademark of; AppleTalk, LaserWriter and Switcher are trademarks of; and Macintosh is a trademark licensed to Apple Computer, Inc. Multiplan is a registered trademark of Microsoft Corporation. Jazz is a trademark of Lotus Development Corporation. MacSMARTS, the MacSMARTS icon, the Cognition Technology logo and Intelligence Amplifying Software are trademarks of Cognition Technology Corporation, 55 Wheeler Street, Cambridge, MA 02138, (617) 492-0246.



MacSMARTS™

And find that two *(or more)* are much better than one.

With MacSMARTS™, the first intelligent knowledge processor, you're ready to solve problems, trouble-shoot, plan, design—or advise others how to do so with the click of a mouse.

Just put in the facts, add your rules and examples—not in code but in simple English on a desktop that looks like Multiplan, Excel or Jazz.

In fact, MacSMARTS does for knowledge what spreadsheet programs do for numbers.

For example, some current field applications:

- A medical laboratory director found that a MacSMARTS program could assist new technicians in performing diagnostics tests.
- A secretary in a busy office uses a MacSMARTS program to find the best way to ship packages.
- A space engineer discovered that a MacSMARTS program provides a way to analyze the requirements of onboard computers.
- A car salesman is developing a MacSMARTS program to help buyers select the best car for their needs and budget.
- A union organizer will use a MacSmarts program to advise members of their contract rights for relief periods during long shifts.
- A financial consultant saw that a MacSMARTS program helps him advise more clients.

The possibilities are bounded only by logic and your imagination. MacSMARTS is powerfully productive, but easy to use, and, best of all, priced for the rest of us.

AFFORDABLE

MacSMARTS is not yet available in your local dealer's store at a suggested retail list price of $150. So we're making a special introductory offer for a limited time only. Order MacSMARTS direct risk-free now for only $69.95. If MacSMARTS does not boost your personal productivity over the first 60 days, send it back for a full refund - no questions asked. We'll guarantee your satisfaction!

YES, I want to innovate today. Please send me MacSMARTS™!

MacSMARTS Not Copy-Protected Quantity: ____ @ **$69.95** = ____

MA res. add $3.50 sales tax per copy = ____

60-Day Money-Back Guarantee Shipping and Handling $5.00 per copy = ____

Payment: Total Amount = ____

Check or Money Order enclosed MC VISA

To order by Credit Card call toll-free (800) 255-5550, Ext. 351

Credit Card Expiration Date ____/____

Card # |_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

Signature: _____

Name: _____

Shipping Address: _____

City: _____ State: ____ Zip: ____

Telephone: _____

Introductory offer ends May 31, 1986

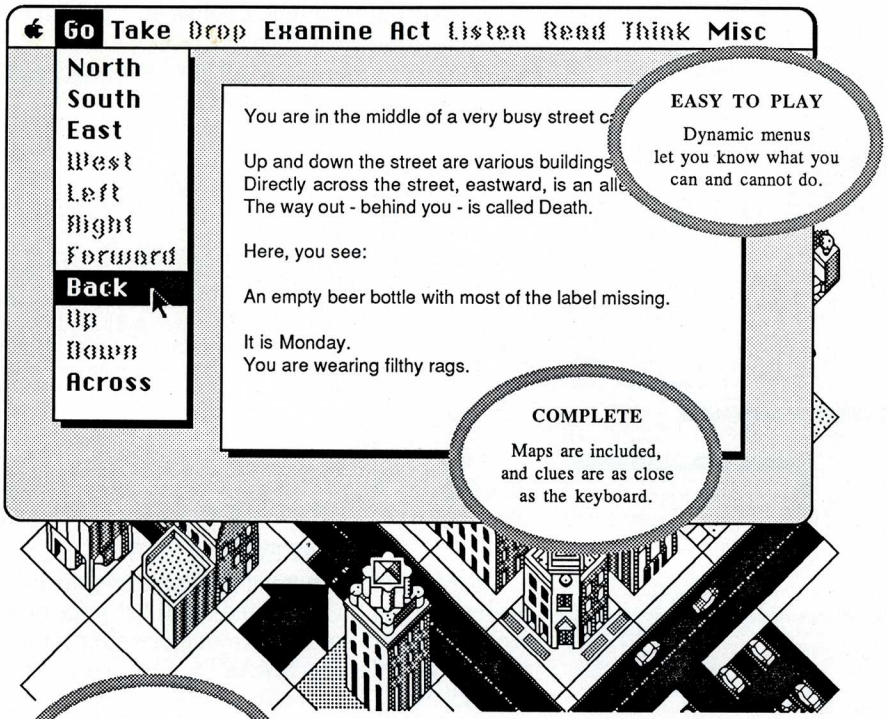
CODs and Purchase Orders WILL NOT be accepted.

U.S. ORDERS ONLY: Export not permitted. **Hardware requirements: 512K RAM**

Tired of Trolls? Weary of Wizards?

Real Life

The Greatest Adventure of All


Go Take Drop Examine Act Listen Read Think Misc
North
South
East
West
Left
Right
Forward
Back
Up
Down
Across
You are in the middle of a very busy street c
Up and down the street are various buildings
Directly across the street, eastward, is an all
The way out - behind you - is called Death.
Here, you see:
An empty beer bottle with most of the label missing.
It is Monday.
You are wearing filthy rags.
EASY TO PLAY
Dynamic menus let you know what you can and cannot do.
COMPLETE
Maps are included, and clues are as close as the keyboard.
MEANINGFUL
Real-life situations, real-life decisions - real-life consequences.

Real Life is not just another fantasy, not just another game. It is that most fantastic of all games, the game of life. Real Life. It is an opportunity to find out what awaits you at the end of your life.

An interactive novel from Relational Systems Corporation.

For the 512k Macintosh. Also available for Apple //c and 80-column //e.

$29.95. We pay shipping & handling. Visa, MasterCard and personal checks welcome. COD orders add $2.00.

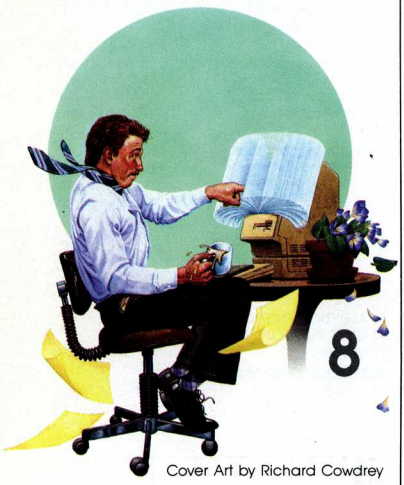
To order, call (313) 645-5090. Or write us at: 22809 Shagbark, Birmingham, Michigan 48010

Due to the delicate nature of some Real Life issues, this product is not recommended for children under 13.

Vol. 1 No. 5

nibble Mac™

may/june 1986



Cover Art by Richard Cowdrey

8 Feature Article

MACSPRINT
by Ken McCandless
Improve your reading comprehension and speed. This program is great fun for children learning to read and for adults who want to enhance their reading skills.

26 Second Feature

CURSOR EDITOR
by Victor Barger
Create custom cursors for your Macintosh programs. FatBits-style drawing makes it easy.

39 Review Board

THE WELL-CONNECTED MAC
Reviewed by Steven Meuse
Tap into a world of Macintosh services. All you need is a Mac, a modem and one of these outstanding telecommunications packages.

46 Working Smarter

THE BASIC-MULTIPLAN CONNECTION
by Pradip Chakravartti
Transfer data from the Multiplan spreadsheet to your MS BASIC program. A Clipboard link makes data entry, editing and updating a breeze.

52 Mac Utilities

MS BASIC PROGRAM SHELL
by Jan Eugenides
Flesh out this program skeleton to create event-driven programs that conform to the Mac user interface guidelines.

58 Mitch's Macinations

VIRTUALLY FREE SOFTWARE
by Mitch Waite and Harry Chesley
Enter the Software Emporium, where powerful programming tools and utilities are free. Mitch and Harry are your guides to the world of shareware, public domain programs, demo releases and free licensed software.

68 Tips 'n Techniques

SECRETS OF MACPAINT
by The Nibble Mac Staff
Discover the powerful secrets of MacPaint. These useful features make Mac artistry even easier.

69 User Views

MACINKER
Reviewed by Loftus E. Becker
Is your printer ribbon looking its age? MacInker rejuvenates graying printer ribbons quickly and conveniently.

39

68

MacPaint

Departments

4 LETTERS

5 VIEWPOINT

6 A WELCOME TO NEW READERS

70 ON THE MAC SCENE
Edited by Sharon Stentiford
The latest in new hardware and software for the Mac!

73 ADVERTISER INDEX

73 NIBBLEADS CLASSIFIED ADVERTISEMENTS

LETTERS

Nibble Mac Listings

You have probably had dozens of letters about an error in MacBanker (Jan./Feb. 1986). Well, here's another. But first I want to thank David Krathwohl and congratulate him for his good work. This is precisely the kind of program I was looking for.

The erroneous line occurs in the PageFlip and PageFlip2 routines:

```
IF ButtonId=2 THEN Page=9+9*(Page=9)
:GOTO PageFlip[2]
```

Secondly, a request. Why not publish actual listings of debugged programs, photographically reduced if necessary, rather than retyped listings which usually introduce errors? Thanks, and keep up the great publication!

Al Scharosch
Cedar Rapids, IA

Editor's Note: Though the line in PageFlip may look erroneous, it actually works as published, due to the Boolean expression within the assignment Page = 9 + 9*(Page=9). When the variable Page equals 0, the expression (Page=9) is false and evaluates to 0, so the expression as a whole evaluates to 9. When the variable Page equals 9, the expression (Page=9) is true and evaluates to −1, so the expression as a whole evaluates to 0.

For several years, the listings in *Nibble*, *Nibble Mac*'s sister publication, were produced by photographically reducing dot matrix printouts. Through experience, we found that this process often led to errors when the magazine was put together. In addition, the listings were more difficult to read. *Nibble Mac* listings are now created by electronically transmitting the working programs directly to typesetting equipment. While there is still some chance for error in this process, we feel that it minimizes the risk, while creating more readable listings. Incidentally, starting with this issue of *Nibble Mac*, we are using a bolder typeface that should made listings even easier to read.

ERRATA AND ENHANCEMENTS

MacBanker (Jan./Feb. 1986, p. 20): The file name is not cleared properly when New is selected from the File menu. Add the following to the fourth line of the FileNew routine:

```
:N$=""
```

To allow commas in the check and memo fields, substitute the LINE INPUT statement for the INPUT statement in the FileOpen routine as follows:

```
LINE INPUT #1, Check$(i,1)
LINE INPUT #1, Check$(i,2)
LINE INPUT #1, Check$(i,3)
LINE INPUT #1, Memo$(i)
LINE INPUT #1, Item$(i,j)
```

Finally, add the following as the first line of the VoidCredit routine:

```
GOSUB AdjustBal
```

Thanks to Thomas Hughes, Venice Center, NY.

MacBanner (March/April 1986, p. 21): Banners do not print correctly on the Apple Imagewriter I. Change the Prinit subroutine as follows:

```
Z$=""
FOR Y=114 TO 90 STEP -1
```

Also, in the FieldSet subroutine, change the first line as follows:

```
EDIT FIELD 1,L$,(25,90)-(450,114)
```

MacSpace (*Nibble* Vol. 6/No. 6, p. 109): To correct for a bug in the new Macintosh Plus's ROM, add the following lines to the end of the Initialize Arrays routine:

```
DIM wv(256)
FOR xx = -127 TO 128:wv(xx+128) =
  ((xx>0)*-1)*127:NEXT
WAVE 1,SIN:WAVE 0,wv
```


PUBLISHER Mike Harvey
EDITOR David Szetela
MANAGING EDITOR David A. Krathwohl

EDITORIAL
Technical Editors — Jan Eugenides, Rich Williams, Loren Wright
Copy Editors — Sharon Stentiford, Carol McGarry
Technical Assistant — Steven Sarsfield
Executive Secretary — Iris Meyerkopf

ADMINISTRATION
Asst. to the Publisher — Adele P. Harvey
Controller — Diane Carhart
Accounts Receivable — William Lawler
Accounts Payable — Mara Gurski
Admin. Assistant — Siobhan O'Brien
Dealer Administration — David Gasdia

DESIGN/PRODUCTION
Production Manager — Paul J. Gagnon
Production Coordinator — Rebecca Richardson
Typesetting — Victorine Belanger

ADVERTISING SALES
National Sales Manager — Kevin Rushalko
Account Executive — Andrew Mintz

ADVERTISING ADMINISTRATION
Manager — Sally Abu-moustafa

DEALER/DISTRIBUTOR MARKET DEVELOPMENT
Manager — Cathi Bland

CIRCULATION/ORDER PROCESSING
Manager — Kelley Magiera
Assistants — Karyn Mohen
Customer Service — Debbie Levins

SHIPPING & INTERNAL SERVICES
Manager — David Sears
Assistants — William G. Brown, Randall Raja

MicroSPARC Inc.
President and C.E.O. — Mike Harvey
Vice President — Adele Harvey
Vice President, Publishing Operations — David Szetela
Vice President, Finance — Diane Carhart

CONTRIBUTING EDITORS
Robert Backman, Victor Barger, Preston Black, M.D., Cornelis Bongers, Duff Caldewey, Ben Colley, Al and Val Floeter, Vahe Guzelimian, Jan Harrington, Bruce Land, Bob Luce, Ken McCandless, Stephen McRoberts, Steve Meuse, Jonathan K. Millen, William Pu, Daryl Scott, C.J. Thompson

NIBBLE MAC OFFICES (617) 371-1660

NIBBLE MAC (ISSN 0884-3929) is published bimonthly for $2.95 per issue, $19.95 for an eight-issue subscription (Canada surface $27.95, outside U.S. and Canada surface $32.95) by MicroSPARC, Inc., 45 Winthrop Street, Concord, MA 01742. Application to mail at Second-Class rates of postage is pending at Concord, MA and at additional mailing offices. POSTMASTER: Send address changes to NIBBLE MAC, 45 Winthrop St., Concord, MA 01742.

Entire contents copyright (c) 1986 by MicroSPARC, Inc.

Address all editorial, advertising and subscription inquiries to Nibble Mac's Concord offices. Return postage must accompany all manuscripts, drawings and photographs submitted if they are to be returned, and no responsibility can be assumed for unsolicited materials. All letters sent to NIBBLE MAC will be treated as unconditionally assigned for publication and copyright purposes and as subject to NIBBLE MAC's right to edit and comment editorially. All rights reserved. Nothing may be reprinted in part or in whole without written permission from the publisher. The editorial board assumes no liability or responsibility for the products advertised in this magazine.

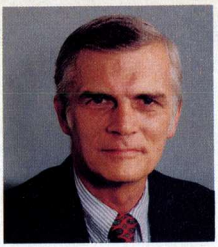
NIBBLE MAC will replace lost copies for 60 days following the publication date. Beyond 60 days, we cannot be responsible for mail loss.

In Germany, dealer inquiries should be directed to: Pandasoft, Uhlandstr 195, 1000 Berlin 12, Germany. Tel: (030) 310 423

MicroSPARC Inc. Limited License for the Use of the Programs in Nibble Mac Magazine

MicroSPARC Inc. is the owner of all rights in the computer programs printed in this magazine. To allow for their use by the purchaser of this magazine, MicroSPARC Inc. grants to such purchaser, only, the **Limited License** (**1**) to enter these programs into the purchaser's computer, and (**2**) to place such computer programs on a diskette for personal use.

Any other use, sale, distribution or copying of these computer programs without the written consent of MicroSPARC Inc., or obtaining, or purchasing copies of these computer programs other than from MicroSPARC Inc. or its authorized distributors is in violation of this Limited License and is expressly prohibited.



VIEWPOINT

WORKING SMARTER . . .
At Home and at the Office

Defining computer markets has become a sport not unlike tennis. The ball bounces back and forth between those who believe that there is a HOME market for the Macintosh and those who don't. We have observed in earlier Viewpoints that while Apple Computer's sales thrust has been toward business, most Macs have actually been sold to home users.

We decided to examine the phenomenon more closely through a survey of our readers. The response to the survey was an incredible 48%, and depending on your perspective, there are quite a few surprises.

BUSINESS AT HOME

First, it is clear that a significant amount of BUSINESS work is accomplished on Macintosh systems in the HOME.

- Sixty percent of the survey respondents regularly complete company work at home.
- Fifty percent of *Nibble Mac*'s readers use the Macintosh both at home and at work.
- Ten percent of *Nibble Mac*'s readers regularly transport the Mac between home and work.

Of particular significance is the fact that more than 78% of the survey respondents influence buying decisions on hardware and software at work. Thirty-one percent actually MAKE the buying decisions for their companies. The reason is not too hard to fathom when you realize that 82% of *Nibble Mac*'s readers rank their computer skills from intermediate to advanced levels.

WHERE'S THE ACTION?

If you think about the dynamics of business, you'll probably agree that a great many major business decisions are MADE in the relaxed, reflective home environment . . . away from telephones and other interruptions. The Macintosh (and the Apple //) are powerful tools for analysis and BUSINESS decision-making IN THE HOME.

The most commonly used applications are in the areas you would expect:

Word processing	80%
Spreadsheet analysis	60%
Graphics	58%
Database management	50%

Nibble Mac readers extend beyond "plain vanilla" usage. Sixty-two percent own and use at least one language system for their own programming. Utility programs are also in heavy use (58%). Entertainment is not left out in the cold, either, and 56% of the respondents own/use entertainment software.

Turning to hardware, 58% of *Nibble Mac* readers own an external floppy disk drive, and more than 31% plan to buy a hard disk this year. Communications use is skyrocketing, with 29% who already own a Mac modem and another 20% who plan to buy a modem this year.

WHAT DOES IT MEAN?

The distinction between the HOME and BUSINESS market is blurring. The key is what people DO with the Macintosh. It's clear that the *Nibble Mac* reader is an enthusiast whose interests span a broad spectrum of business, technical and entertainment uses.

It was particularly interesting to us that 57% of the survey respondents emphasized the availability of original programs in each issue as a primary reason for reading *Nibble Mac*. A resounding 75% of the respondents buy the magazine for information on USING the Mac, from original programming to learning the subtleties of new, complex applications. Increasingly, there is a bridge between technical understanding of how to put the Macintosh through its paces, and making more effective use of commercial software and hardware for the Mac.

With this in mind, we are starting to broaden *Nibble Mac* to include more features that build bridges between personal and business programs. For example, this issue features a program for transferring data between BASIC and Microsoft's Multiplan spreadsheet system. Future issues will bring other utilities that help the Macintosh to WORK SMARTER . . . whether it is with commercial software or personally developed programs.

A WORD ON SURVEYS

It is staggering to realize that we have never conducted a reader survey for *Nibble Mac* (or for its sister publication for the Apple //, *Nibble*) that failed to produce more than a 35% response. We want to thank those of you who have helped with the latest survey . . . and to thank those of you who will undoubtedly receive survey requests in the future. Simply stated, we are here to serve your interests and needs in Macintosh computing. When you take the time to advise us, it helps us to do a better job of serving you. Thanks again!

Mike Harvey

Mike Harvey
Publisher

Welcome to New Readers

Welcome to *Nibble Mac*, the reference for Macintosh computing. Each issue of *Nibble Mac* includes a variety of outstanding programs for your Macintosh, ready for you to type in and run. For non-typists, Nibble Mac programs may be purchased on disk or read directly from the Cauzin Softstrips published in each issue. For more information about the Cauzin Softstrip reader, contact Cauzin Systems, 835 South Main St., Waterbury, CT 06706, (800) 533-7323.

The programs in *Nibble Mac* may be written in one of several languages: Microsoft's BASIC (MS BASIC), Apple's MacPascal, or 68000 assembly language. To key in MS BASIC or MacPascal programs, you will need to own the appropriate language system software. Since most programs published in *Nibble Mac* are written in MS BASIC, a detailed description of the process for entering BASIC programs is described below.

To key in assembly language programs, you will need to own an assembler. Since several assemblers are available for the Mac, look for specific instructions on typing in the program within the article accompanying the program.

GETTING STARTED WITH MS BASIC

To begin, insert your copy of the MS BASIC disk and turn on the Mac's power. You'll notice that there are two separate versions of MS BASIC on the disk, a decimal version and a binary version. The icon for the decimal version has a dollar sign ($), since programs that compute monetary values will be most accurately handled with its math routines. The icon for the binary version has the pi symbol (π), since it is better suited for very precise floating-point mathematical operations.

Each major MS BASIC program in *Nibble Mac* will specify which version you should use in the first few lines of the program. For many applications, either version of BASIC may be used. Once you have determined the version you need, double-click the appropriate icon to start MS BASIC. When it is first loaded, MS BASIC will present you with a List window, a Command window, and an output window, with the List window active. You can tell it is the active window because the title bar contains a series of horizontal lines, and the cursor is flashing in the upper-left corner of the window.

ENTERING THE PROGRAM

You will enter the published program code in the List window just as you would enter text in MacWrite. With few exceptions, the same editing tools (Cut, Copy and Paste) are available in the MS BASIC editor. One difference you will notice is that when more than one line is selected with the mouse, it is not possible to select just part of a line. Any keywords that you type (e.g., PRINT, INPUT, etc.) will automatically be capitalized and displayed in boldface type. This makes it easier to tell the difference between program statements and the names you assign to variables and subroutine labels.

Also, when you type beyond the right border, the screen scrolls horizontally and displays the new characters on the same line (instead of "wrapping" them to the next line). This occurs because each program line consists of a sequence of characters followed by a carriage return. You should not press the <Return> key until you have typed the entire line. Occasionally, a line in a *Nibble Mac* program will be too long to publish without spilling onto the next line. When this happens, two solid arrows (►►) appear at the end of the first line, and the remainder of the code appears on the line below. Continue to key in the line without pressing <Return> at the solid arrows. (Do not attempt to enter the two solid arrows. They are simply markers to help you type in the program.)

As you type in the program, it is a good idea to use the Save option (in the File menu) every few minutes. This minimizes your loss in case you lose power to the Mac. It is also a good idea to save the program before you run it. Though unlikely, it is possible to enter combinations of BASIC statements that will cause your Mac to "hang" and require you to shut it off and power up again.

RUNNING THE PROGRAM

When you have finished typing in the listing and have saved the final version, use the Run menu to start the program. Most typing errors will elicit a beep and an error message in a dialog box. After you click OK in the dialog box, your listing is displayed, and the line in question is highlighted with a black border. Usually this will be the line that contains a typing error. However, in some cases (e.g., ILLEGAL QUANTITY error), the typing error will be present in a previously executed line. (Since program flow can be re-routed by such statements as GOTO and GOSUB, this line may or may not actually precede the line in which the error occurred.)

A FEW TIPS

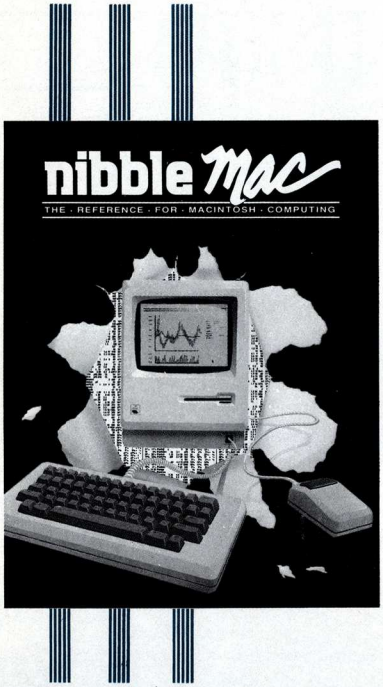
1. If you double-click the title bar of the List window, it will expand to fill the Mac's screen and make the task of typing in listings much easier. The List window can be reduced to its original size by double-clicking the title bar a second time.
2. To obtain a printed listing of your program, select the Command window from the Windows menu and type **LLIST** (note that there are two L's). If you precede this command with the command:

   LPRINT CHR$(27)"Q"

   the Imagewriter will print your listing in compressed type.
3. If a typo causes your program to execute improperly, you may need to stop it with the break command. To execute the break command, press the command key (⌘) and the period key (.) together. When this is done, you will often be left with the menu bar of the program, which will now be inactive. To reset the menu bar, first type any character to obtain the Command window. Then type **MENU RESET** or END to obtain the BASIC menu. dow. Then type **MENU RESET** or **END** to obtain the BASIC menu.
4. Be particularly careful when typing in lines that contain the reserved word DATA. Typos in these lines may not cause an error that stops the program, but they can seriously affect the program's proper execution.
5. Don't try to modify the program until you have typed it in as published and have run it successfully. Then keep a copy of the unmodified program separate from the modified version. This will make it easier to debug if you have made any typing errors.
6. If the program does not seem to run correctly, it may be helpful to temporarily remove any ON ERROR GOTO statements. This will allow you to see error messages suppressed by ON ERROR GOTO routines.
7. If, after careful double-checking, you're certain that you have typed the program correctly, but you still can't get it to work, write us a letter or call *Nibble Mac*'s Technical Support Office at (617) 371-1660.

Attention Telecommunicators: The Nibble Hot Line is up and running! Use your Apple to call our Apple at 617-369-8920. The Hot Line has all the latest errata notices plus other goodies! Set your communications software at 300 baud, 8 data bits, 1 stop bit, no parity, full duplex.

Now that you have the computer for the rest of us, do yourself another favor. Read this ad.



Some Macintosh™ users don't realize the many benefits of the International Apple Core (IAC)™. Or what we can do for you and your MAC.

The International Apple Core is a non-profit organization of Apple users and user groups. We're just like your Macintosh: friendly and helpful.

We're dedicated to education, information and support for users of Macintosh and Apple products.

You can enjoy all the special benefits we have been providing user groups since 1979. You may share information on new applications, or learn the latest about Macintosh products. Or keep up on Apple events.

If you'd like to join a local user group and contact other Macintosh enthusiasts, we can help.

Membership Information

When you join the IAC, your savings on our products and services can pay for your membership many times over.

Our Individual Membership brings you discounts on many Macintosh™ products, services and software. You'll receive discounts on public domain software, computer insurance, Micro Disk Minder™ and Penta Pacs™ — to keep your disks in order. Your membership includes the IAC Express newsletter, access to IAC's BBS and an 8-issue subscription to MicroSPARC's new Macintosh publication, Nibble Mac.

Each issue of Nibble Mac is packed with programs (in Microsoft BASIC and other languages) ready for you to type in and run. Your software library will expand with useful programs for Home and Personal Finance, Games, Education, Business, and programming utilities. If you choose to learn programming, you'll find Nibble Mac an invaluable reference. But you don't have to be a programmer to use Nibble Mac's top-quality programs. You'll also find insightful reviews, new Mac product information, and tips on using popular commercial software packages.

You'll receive all this — IAC membership plus an 8-issue subscription to Nibble Mac — for the introductory price of $25.00 yearly membership fee.*

If you get together with other Macintosh owners, you're on your way to forming a user group. And that's good. Because you can benefit even further from the IAC.

Our User Group Membership includes a subscription to Nibble Mac, IAC Express, and access to IAC's BBS *plus* group purchases at even bigger discounts. All the benefits of an individual membership and more. For not much more. Just $40.00 yearly.*

If you've considered forming a user group, you'll want our Club Management Binder. For only $25.00 you receive sample by-laws, ideas on forming and running your group, and information on electing officers and directors. All enclosed in a hard-bound ring binder with two disks of public domain software to get your club's library off to a good start.

Individually or as a group, you're a winner! So do yourself another favor and fill out the membership coupon below.

* U.S. only — see below for Canadian and International rates.

I want more for me and my Mac! Please sign me up for:

- ☐ Individual US Membership $25.00
- ☐ Individual Canadian Membership $35.00
- ☐ Individual International Membership $70.00
- ☐ I'm already a *Nibble Mac* subscriber — please extend my subscription.
- ☐ User Group USA Membership $40.00
- ☐ User Group Canadian Membership $50.00
- ☐ User Group International Membership $85.00
- ☐ Club Management Book $25.00
  (outside USA & Canada please add $5.00 shipping and handling)

Payment must be in US funds drawn on a US bank. Checks, Money Orders, and MasterCard & Visa welcome.

Mail payment to:

International Apple Core
Dept #M-24
2278 Trade Zone Blvd.
San Jose, CA 95131
(408) 262-9419

☐ Payment enclosed (US funds only)
☐ VISA ☐ MasterCard

Charge Card No. _____ Interbank No. _____ Expiration Date _____

Signature _____

Name _____

Address _____

City _____

State/Zip _____ Country _____

© 1984 International Apple Core
Macintosh is a trademark licensed to Apple Computer, Inc.
Micro Disk Minder and Penta Pac are trademarks of International Datawares, Inc.
Apple and Apple II are registered trademarks of Apple Computer, Inc.

FEATURE ARTICLE

MACSPRINT

Your Macintosh can help you or your children learn to read faster, and with better comprehension, with the MacSPRINT (Speed Reading improvement Technique) program!

by Ken McCandless, 6124 Flor De Rio, N.W., Albuquerque, NM 87120

If you have ever wished you could reduce the time you spend poring over mountains of paper or wanted a program to help your child with reading, MacSPRINT is the answer. MacSPRINT can help you increase both your reading speed and comprehension. Within a short time you can double your reading speed. A preschool child who can only recognize letters and numbers can also benefit from using MacSPRINT.

MacSPRINT flashes a sequence of numbers, letters, words, phrases or sentences on the screen. You read the sequence and type in what you just read. Sound easy? It's fun too.

READING SPEED

Before you use the program, find an article of moderate length (about 500 words should be sufficient) and time yourself while you read it. Determine your initial reading speed by dividing the number of words in the article by the time you spent reading it. Take note of this value. By periodically repeating this procedure, you can keep track of your improvement.

USING MACSPRINT

When you run MacSPRINT, you will see a data display window and a button titled Display. The menu bar displays seven menu titles. The currently selected options are indicated by check marks. The menu options are as follows:

1. The File menu has two options for quitting the program. Quit to BASIC stops the program and returns to MS BASIC. Quit to Desktop stops execution and returns you to the System. Note that the program will treat a <Command>. entry as a Quit to BASIC.
2. The How To menu provides instructions on how to set up and use the program.
3. The Speed menu lets you adjust the length of time a number or letter sequence is displayed on the screen. There are five options, ranging from Slowest to Fastest.
4. The Difficulty menu lets you adjust the length of sequences, from a single word to a long sentence. The five options range from Easiest to Hardest.
5. The Mode menu lets you choose between the Normal and Preschool data modes. Normal mode helps adults improve reading speed and comprehension. Preschool mode is designed for the young child who can only recognize letters or numbers.
6. The Type menu lets you select sequences of words/letters or numbers. Selecting Words/Letters displays letter sequences in Preschool mode, or words, phrases or sentences in Normal mode. Selecting Numbers displays numerical sequences in the window. The sentences generated by MacSPRINT are usually nonsensical.
7. The Sound menu allows you to turn the program's sound on or off.

You may adjust the program settings at any time. However, once a sequence is flashed on the screen, the settings are locked in until you either type in the correct entry or miss it twice. During these attempts, you may modify the settings, and they will become effective with the next sequence. The program begins with the following default options:

Speed:	Average
Difficulty:	Average
Mode:	Normal
Type:	Words/Letters
Sound:	On

You may want to adjust these settings before beginning your session.

To begin, click on the Display button, or press <Return>, and watch the screen. After the sequence has been flashed, an edit field appears just above the button. This is your cue to enter the sequence you just saw. When data is displayed in Preschool mode, there are spaces between the letters or numbers. Only the letters or numbers need to be typed, not the spaces.

If you enter the sequence correctly, you can proceed. If you make a mistake, you get another chance, but if you miss a second time, the correct sequence and your attempts are displayed. These remain on the screen until you click the Continue button or press <Return> to go to the next sequence.

For every new sequence, you score

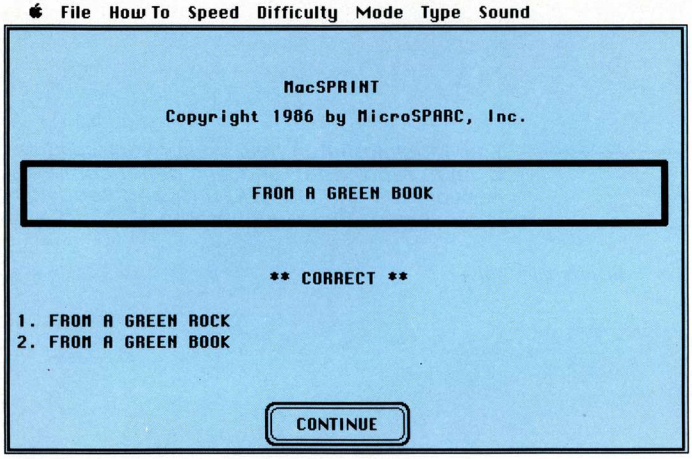

File How To Speed Difficulty Mode Type Sound
MacSPRINT
Copyright 1986 by MicroSPARC, Inc.
FROM A GREEN BOOK
** CORRECT **
1. FROM A GREEN ROCK
2. FROM A GREEN BOOK
CONTINUE

FIGURE 1: The MacSPRINT Display

two points if you are correct on the first try, one point if you are correct on the second try, and no points if you miss both attempts.

The program automatically adjusts its settings based upon your performance. If you get five correct in a row, the program will make itself harder. If you make three consecutive mistakes, the program will make itself easier. The program first modifies the speed setting. If no further adjustments to the speed setting are possible at the current difficulty level, the difficulty level is adjusted and speed is set to average.

ENTERING MACSPRINT

Insert a disk with a copy of Microsoft (MS) BASIC (2.0 or higher, binary) and open it. Type in **Listing 1** and save it under the name MacSPRINT. For more information on entering *Nibble Mac* programs, see "A Welcome to New Readers" at the beginning of this issue. Once you have entered and saved the program, run it a few times, adjusting the settings as you go. Check out the autoadjust feature by getting three wrong answers in a row and then getting five correct consecutive answers.

When you are satisfied that the program is working, it is time to enter the words you want censored. In Preschool mode, it is possible for the randomly generated letters to spell out words you don't want your child to read. To censor words, enter them in reverse, starting with (and replacing) the last DATA statement in the program. The last DATA statement now contains the word DAB — this is BAD in reverse. The words are entered in reverse to make them unintelligible to young, curious eyes.

When you have entered all the words you want to censor, you must make one additional change. The third program line after the [A] near the beginning contains the assignment statement NumbOfBadWords=1. Change the one to the number of words you entered in your censored words list.

If you want additional security, save the program to a disk that you keep in a safe place and then save it again to another disk as a protected file. (A protected program is unlistable.) Be sure to keep one unprotected version, though, because once you have saved a program as a protected file, you cannot reverse the process.

HOW IT WORKS

Table 1 lists the program variables and their uses. The major program sections are described below.

Initialization

The first part of the program [A] is the initialization section. First, the random routine is seeded. Next, the arrays and variables are declared and loaded. InitMenu is a subroutine call to create the menus. The main window and its buttons are defined and both the break and menu interrupt handlers are set up and activated.

MacSPRINT, Cursor Editor and MS BASIC Program Shell are available on diskette for an introductory price of $19.95 plus $1.50 shipping/handling ($2.50 outside the U.S.) from Nibble Mac, 45 Winthrop St., Concord, MA 01742. Introductory price expires 8/31/86.

Note: When keying in the program, do *not* press <Return> at the end of lines that contain the ►► symbol. See "A Welcome to New Readers" for details.

LISTING 1: MacSPRINT

```
'MacSPRINT
'by Ken McCandless
'Copyright 1986
'by MicroSPARC, Inc.
'Concord, MA  01742

'Microsoft BASIC 2.0 (Binary)

' [A]
RANDOMIZE TIMER:OPTION BASE 1
DEFINT a-y

'==== The next three lines work around a bug in the Mac+
'==== On earlier Macs you should remove these three lines
DIM WV%(256)
FOR XX% = -127 TO 128:WV% (XX%+128) = ((XX%>0))*127:NEXT
WAVE 1,WV%:WAVE 0,WV%
'==== Remove up to here
```

```
Art=2:Prep=43:Noun=50:Adj=50:Verb=55:NumbOfBadWords=1
DIM Art$(Art),Prep$(Prep),Noun$(Noun),Adj$(Adj),Verb$(Verb)
DIM BadWords$(NumbOfBadWords),ArtRnd(3),NounRnd(3),AdjRnd(3)
DIM InErr$(2),Notes(7),SpeedTab$(5),DiffTab$(5),ModeTab$(2)
frect(1) = 276:frect(2) = 188:frect(3) = 309:frect(4) = 296
Speed=3:Diff=3:Mode=1:Type=1:s$=" ":ButtonSwitch=0
Bad=1:SoundMode=1:ShowAnswer=0
Total=0:Score=0:WordScore=0:NumbCorrect=0:NumbWrong=0
rect(1)=95:rect(2)=5:rect(3)=145:rect(4)=490
Notes(1)=523:Notes(2)=587:Notes(3)=659:Notes(4)=698
Notes(5)=784:Notes(6)=880:Notes(7)=988
DEF FN CENTER(z)=28-INT(LEN(a$)/2)
DEF FN NUM(b)=INT(RND*10)+48
GOSUB BuildWordList
WINDOW 1,,(7,26)-(504,335),2
BUTTON 1,1,"DISPLAY",(192,280)-(292,305),1
GOSUB FrameButton
InitMenu
CALL TEXTFONT(4):CALL TEXTSIZE(12):CALL TEXTFACE(1)
ON BREAK GOSUB BreakHandler:BREAK ON
ON MENU GOSUB MenuHandler:MENU ON

 '[B]--- wait for something to do
Idle:
i=MOUSE(0):IF MOUSE(1)=x THEN Idle1
IF WINDOW(0)<>1 THEN Idle1
LINE (170,170)-(300,190),30,bf:i=MOUSE(0):x=MOUSE(1)
Idle1:
EventType=DIALOG(0)
IF EventType=5 THEN GOSUB UpdateScreen
IF WINDOW(0)<>1 AND EventType=1 THEN GOSUB WinClose:GOTO Idle
IF ButtonSwitch<>1 THEN Idle2
CALL SHOWCURSOR
IF EventType=1 OR EventType=6 OR EventType=7 THEN GOSUB CheckInput:GO►►
TO Idle
Idle2:
IF ButtonSwitch=0 AND EventType=1 THEN GOSUB ButtonHandle
IF ButtonSwitch=0 AND EventType=6 THEN GOSUB ButtonHandle
GOTO Idle

'[C]
ButtonHandle:
     LINE (170,170)-(300,190),30,bf
    IF Bad=1 THEN GOSUB BuildString:sp=Speed
    WINDOW 2,,(19,128)-(490,164),-3:CALL TEXTFACE(1):CALL TEXTFONT(4)
    CALL MOVE(0,10):FOR i = 1 TO FN CENTER(z):PRINT" ";:NEXT i:PRINT a$;
    FOR i=1 TO 1000+((5-sp)*1500):NEXT i:WINDOW CLOSE 2:ButtonSwitch=1
    x=DIALOG(0):LOCATE 15,1:PRINT"-";:CALL MOVE(0,1):PRINT"> ";
    CALL MOVE(0,-1):CALL TEXTFONT(4):CALL TEXTFACE(0)
    EDIT FIELD 1,"",(20,225)-(485,240)
    BUTTON CLOSE 1:BUTTON 1,1,"OK",(192,280)-(292,305),1
    GOSUB FrameButton
    RETURN
FrameButton:
PENSIZE 2,2
FRAMEROUNDRECT VARPTR(frect(1)),16,16
RETURN

'[D]
CheckInput:
    In$=UCASE$(EDIT$(1)):InErr$(Bad)=In$:CALL TEXTFACE(1)
    IF (Mode=2 AND In$=b$) OR In$=a$ THEN ItsGood
    LOCATE 12,25:CALL MOVE(5,0):PRINT"** WRONG **"
    IF SoundMode=1 THEN GOSUB WrongAnswer
    ButtonSwitch=0:EDIT FIELD CLOSE 1:LOCATE 15,1:PRINT"      ";
    Bad=Bad+1:CALL SHOWCURSOR:WordScore=WordScore-1
    IF Bad<>3 THEN DoneCheckInput
    CALL TEXTMODE(1):GOSUB ShowResponses:Bad=1:TotalSw=1
  NumbWrong=NumbWrong+1:NumbCorrect=0
ChkIdle:
    Event=DIALOG(0)
    IF WINDOW(0)<>1 AND Event=1 THEN GOSUB WinClose:GOTO ChkIdle
    IF Event=1 OR Event = 6 THEN ChkErrDone
    IF Event=5 THEN GOSUB UpdateScreen:IF i=1 THEN GOSUB ShowResponses
    GOTO ChkIdle
ChkErrDone:
    CALL TEXTFACE(1)
    LINE (0,150)-(503,250),30,bf
    LINE (12,102)-(483,138),30,bf:GOSUB BuildDisplay
    GOTO DoneCheckInput
```

continued on page 13

Idle Loop

The Idle routine [B] checks for the occurrence of several events. First, it checks whether the mouse has been moved. If so, and if the main window is currently displayed, the part of the screen which displays the Correct or Wrong message is erased.

At Idle1 the program checks for a dialog event. If the event is an update event (type 5) then part of the window needs to be redrawn, and the program branches to UpdateScreen. If the event is a button event (type 1) the program first checks to see which window is currently displayed, the main window or the instruction window. If the instruction window is displayed, the Done button has been pressed and the window is closed. If the main window is displayed, the program branches to CheckInput or Idle2, depending on the value of ButtonSwitch. Tab events (type 7) and Return events (type 6) also branch to CheckInput, depending on the value of ButtonSwitch.

Data Display

The ButtonHandle routine [C] removes any Correct or Wrong message displayed on the screen and determines if a new data string (for a sequence of letters or numbers) needs to be built. A new string is built when it is finished with the prior string (i.e., Bad=1). Bad is incremented when the input data is cleared, when the input data is correct or when both attempts are in error.

A window is opened within the data display rectangle, in the center of the screen. Next, the data is centered and displayed. The Timing subroutine determines how long the data remains on the screen, using the formula 1000+((5−sp)*1500) as the upper limit of a FOR-NEXT loop. When this loop is completed, the window is closed. A switch (ButtonSwitch) is set to force the user to input data. Any other dialog event, such as a mouse click, is ignored.

Finally, an arrow prompt and the edit field for data input are displayed. The program then returns to the Idle loop for the next user-selected action.

Input Check

The routines in [D] check to see

TABLE 1: MacSPRINT Variables

Variable	Use
A$	Data to be flashed
Adj	Holds the number of adjectives that are in the data statements
Adj$( )	Adjective array
AdjAnd( )	Array for selecting the adjectives
Art	Holds the number of articles that are in the data statements
Art$( )	Article array
ArtAnd( )	Array for selecting the articles
b	Work variable used by functions
B$	Work string used in building the data to be flashed
Bad	Counter for the number of incorrect attempts at a single data pattern that is flashed
BadWords$( )	Censored words array
ButtonSwitch	Switch used to indicate where the program is in response to the edit field's request for data
C$	Work string used in building the data to be flashed
D$	Work string used in building the data to be flashed
df	Work variable used to adjust the difficulty level
Diff	Difficulty level
DiffTab$( )	Array holding the difficulty level strings
EndSound	Holds the indicator for the sound to be produced at the end of the session
Event	Holds the dialog event during input checking and at the end of the session
EventType	Holds the dialog event while IDLEing
FN CENTER( )	Function for centering the data to be flashed in the display window
FN NUM( )	Function for generating a random integer from 0 to 9
i	Work variable with multiple uses
In$	Input response string
InErr$( )	Array holding the input responses for a single attempt at a flashed pattern
j	Work variable with multiple uses
MenuItem	Holds the number of the item selected in a menu
MenuNumb	Holds the menu number for the menu item selected
Mode	Holds the indicator for normal or preschool data (Mode=1 means Normal; Mode=2 means Preschool)
ModeTab$( )	Array holding the mode strings
Notes( )	Array holding the note values for increasing/decreasing the speed/difficulty level(s)
Noun	Holds the number of nouns in the data statements
Noun$( )	Array holding the nouns
NounAnd( )	Array for selecting the adjectives
NumbCorrect	Correct response counter
NumbOfBadWords	Holds the number of censored words in the data statements
NumbWrong	Wrong response counter
Prep	Holds the number of prepositions in the data statements
Prep$( )	Array holding the prepositions
PrepAnd( )	Array for selecting the prepositions
Rect( )	Defines the display window rectangle
s$	A single space character
Score	Score
ShowAnswer	Indicates that a correct response was preceded by an incorrect one and that the data need to be displayed
SoundMode	Sound on or off (1 = on, 2 = off)
sp	Work variable used to adjust the speed level
Speed	Speed at which the data is to be flashed
SpeedTab$( )	Array holding the speed level strings
Temp$	Work string used to reverse the censored word strings
Total	Total number of data strings built, used to calculate the percentage correct
TotalSw	Switch used to indicate if the last built string is to be included in the total; used at the end of the session
TotScore	Total score (= Total * 2)
Type	Holds the indicator for word or number data (Type=1 means words; Type=2 means numbers)
Verb	Holds the number of verbs in the data statements
Verb$( )	Array holding the verbs
VerbAnd( )	Array for selecting the verbs
WordScore	Used to score a single attempt at a data pattern
x	Used to indicate mouse movement
z	Work variable (real)

whether the user's input is correct. First, the input is converted to uppercase and saved. Then it is checked for correctness by comparing it to the displayed data. If the program is in Preschool mode, the input data is compared to the display data without the embedded spaces.

If the input data is incorrect, Wrong is displayed and an appropriate sound is played (if the sound option is on). Next, the program retrieves the data sequence, closes the edit field, removes the arrow prompt, increments Bad, redisplays the cursor

LISTING 1: MacSPRINT *(continued)*

```
ItsGood:
    LOCATE 12,24:CALL MOVE(5,0):PRINT"** CORRECT **"
    IF SoundMode=1 THEN GOSUB RightAnswer
    ButtonSwitch=0:EDIT FIELD CLOSE 1:LOCATE 15,1:PRINT"      ";
    IF Bad = 2 THEN GOSUB ShowResponses:ShowAnswer=1
    Bad=1:NumbCorrect=NumbCorrect+1:NumbWrong=0:TotalSw=1
    CALL SHOWCURSOR
    IF ShowAnswer=1 THEN ChkIdle
DoneCheckInput:
    ShowAnswer=0
    IF NumbCorrect>4 THEN GOSUB MakeHarder
    IF NumbWrong>2 THEN GOSUB MakeEasier
    BUTTON CLOSE 1:BUTTON 1,1,"DISPLAY",(192,280)-(292,305),1
    RETURN
ShowResponses:
    CALL TEXTMODE(1):BUTTON CLOSE 1:BUTTON 1,1,"CONTINUE",(192,280)-(►►
292,305),1
    CALL TEXTFACE(1)
    LOCATE 8,3:FOR i = 1 TO FN CENTER(z):PRINT" ";:NEXT i:PRINT a$;
    CALL TEXTMODE(0)
    LOCATE 14,1:PRINT "1. ";InErr$(1)
    IF Bad=2 THEN PRINT "2. ";In$ ELSE PRINT "2. ";InErr$(2)
    RETURN
'[E]
UpdateScreen:
    i=DIALOG(5):ON i GOSUB BuildDisplay,SetUpScr
    RETURN

' [F] --- Auto Adjust based upon performance
MakeHarder:
'[F1]
   sp=Speed+1:NumbWrong=0:NumbCorrect=0
    IF sp>5 THEN MH1
    Speed=sp:IF SoundMode=1 THEN GOSUB NotesUp
    FOR i = 1 TO 5:MENU 3,i,1:NEXT i:MENU 3,Speed,2
    FOR i=1 TO 5:MENU 3,0,0:MENU 3,0,1:NEXT i
    GOTO MHDone
MH1:
    df=Diff+1
    IF df>5 THEN MHDone
    Diff=df:Speed=3:IF SoundMode=1 THEN GOSUB NotesUp
    FOR i = 1 TO 5:MENU 3,i,1:MENU 4,i,1:NEXT i
    MENU 3,Speed,2:MENU 4,Diff,2
    FOR i = 1 TO 5:MENU 3,0,0:MENU 3,0,1:NEXT i
MHDone:
    RETURN
'[F2]
MakeEasier:
    sp=Speed-1:NumbWrong=0:NumbCorrect=0
    IF sp<1 THEN ME1
    Speed=sp:IF SoundMode=1 THEN GOSUB NotesDown
    FOR i = 1 TO 5:MENU 3,i,1:NEXT i:MENU 3,Speed,2
    FOR i=1 TO 5:MENU 3,0,0:MENU 3,0,1:NEXT i
    GOTO MHDone
ME1:
    df=Diff-1
    IF df<1 THEN MEDone
    Diff=df:Speed=3:IF SoundMode=1 THEN GOSUB NotesDown
    FOR i = 1 TO 5:MENU 3,i,1:MENU 4,i,1:NEXT i
    MENU 3,Speed,2:MENU 4,Diff,2
    FOR i = 1 TO 5:MENU 3,0,0:MENU 3,0,1:NEXT i
MEDone:
    RETURN

' [G] --- Build the data to be flashed
BuildString:
'[G1]
z=FRE(""):a$="":b$=""
TotalSw=0:Score=Score+WordScore:WordScore=2:Total=Total+1
IF Mode=1 THEN BuildNormalString
'---build preschool display
IF Type=1 THEN BuildPreschoolWord
' [G2] ---preschool numbers
FOR i = 1 TO Diff+2
   C$=CHR$(FN NUM(b))
    b$=b$+C$
    a$=a$+C$+s$
NEXT i
a$=s$+a$
GOTO BuiltString
```

continued on page 20

and decrements the score for this sequence by one.

If the second attempt is incorrect, the correct sequence is shown along with both incorrect attempts. Bad is reset to one since the program is through with this sequence. NumbWrong, the wrong response counter, is incremented. If a Quit is executed prior to building the next data string, the score is adjusted by setting the TotalSw switch to one. The program then awaits a click of the Continue button, after which the display is cleared. The program then checks whether it needs to adjust any settings.

If the input data is correct and the sound option is on, Correct is displayed and the appropriate sound is played. The program retrieves the data sequence, closes the edit field and removes the arrow prompt. The first incorrect response (if any) and the correct response are displayed. Bad is reset and NumbCorrect, the correct response counter, is incremented. TotalSw is set to one to allow scoring if Quit is requested before the next string is built. The cursor is redisplayed and if the incorrect and correct responses are to be shown, program flow goes to ChkIdle, displays the data and waits for the click of the Continue button.

The exit point for these routines does the automatic difficulty adjustment checks. If there were five correct responses in a row, the settings are made more difficult. If there were three incorrect responses in a row, the settings are made easier. The routine returns to Idle.

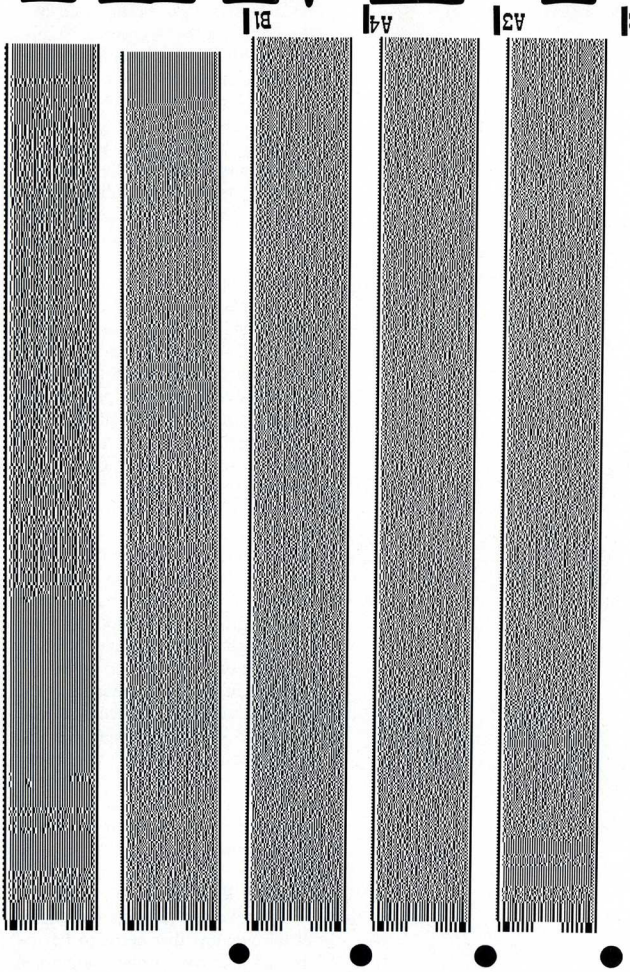
Screen Refresh

UpdateScreen [E] gets the number of the window that needs to be refreshed and goes to the routine that creates the screen display.

Automatic Difficulty Adjustment

The MakeHarder subroutine [F1] adjusts program difficulty. First, the auto-adjust counters are reset. Then the program's speed setting is increased, if possible, and a series of notes going up the scale are played if the sound is turned on. A check mark is put by the New Speed option in the Speed menu and the menus are

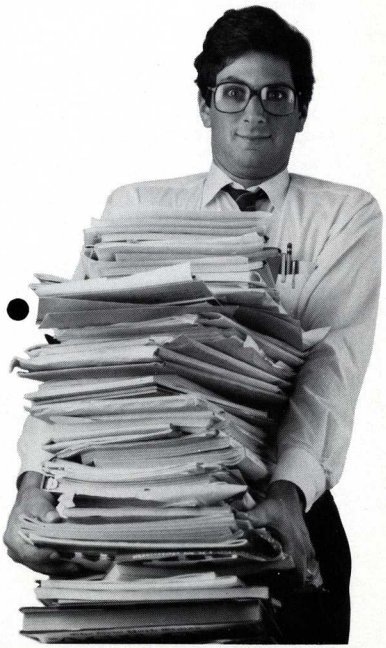
HAVE YOU ST



It's a question more and more Macintosh owners are asking. And no wonder. What everyone is talking about is Softstrip™. The revolutionary technology that is changing the shape of computer software.

The Cauzin Softstrip System is more than just software or data on paper. Because when you invest in this system, you can do much more with your computer, and for far less than you are probably spending now. You can even create and print out your own data strips.

But that's only the beginning of an offer that's going to make you wonder why you haven't stripped yet . . .



RIPPED YET?

The data strips on these six pages feature seven entertaining programs from the Software Exchange Library of the Boston Computer Society. Our collection includes:

A — FONT TESTER
display the entire alphabet of any installed fonts in any size and style

B — WORLD CLOCK
know what time it is in some of the world's key cities

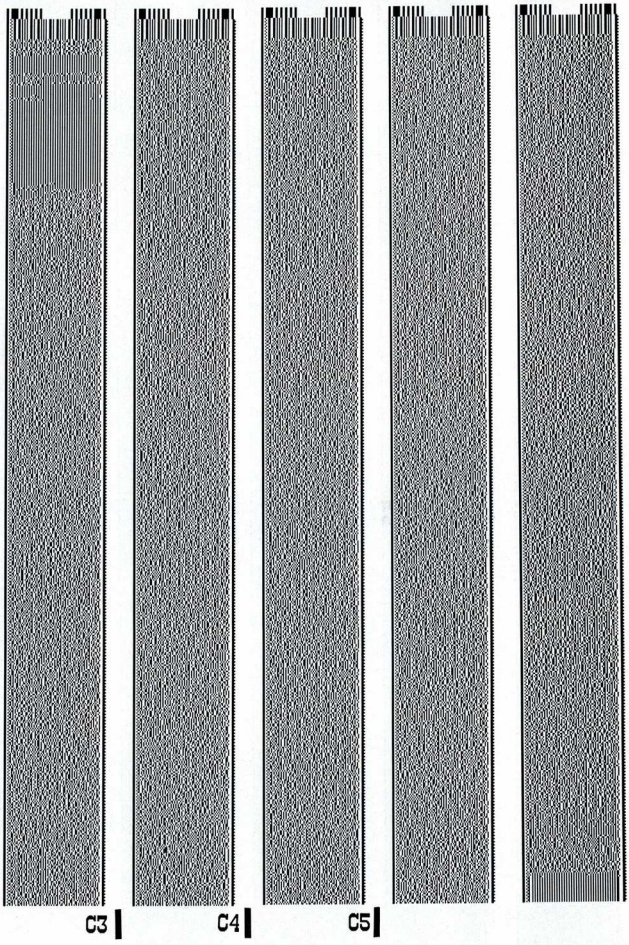
C — MASTER GUESS
an enjoyable adaptation of the popular MasterMind™

D — SOLITAIRE
it's the luck of the draw in this card game classic

E — PUSH
set your sights on this novel way to clear your screen

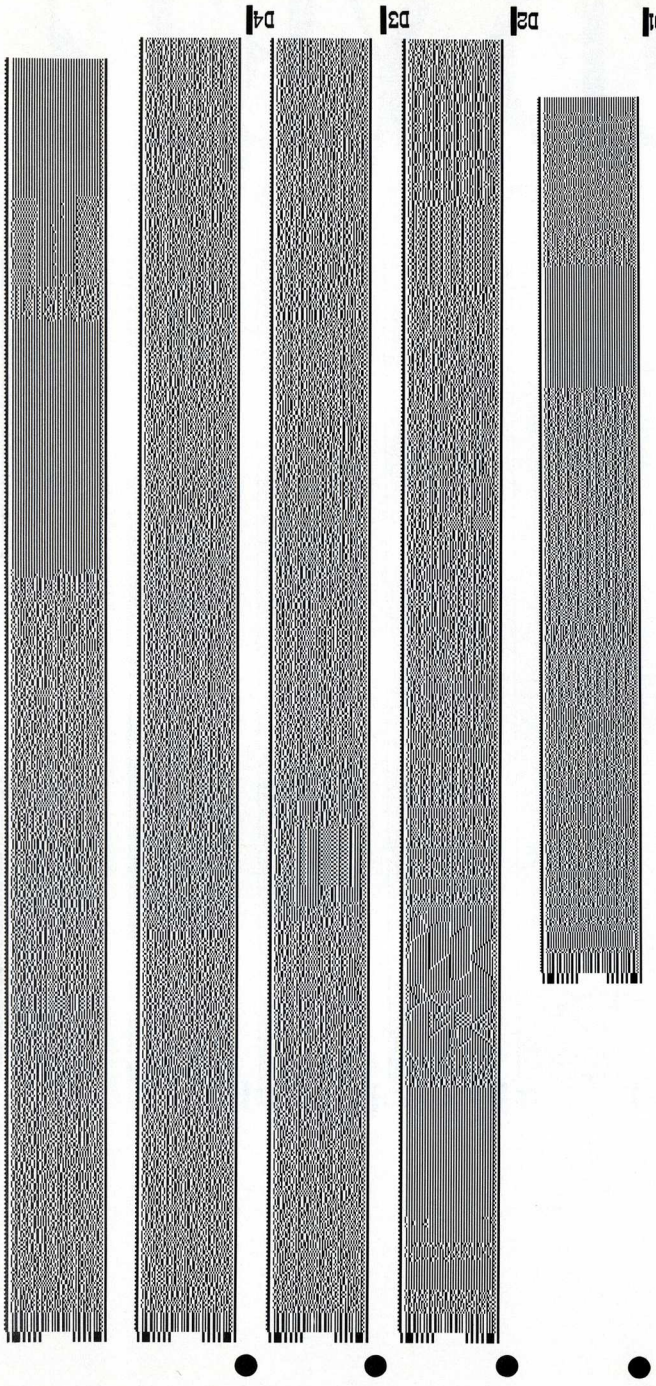
F — SWITCH
instantly move from application to application

G — EXPLORER
display any area of memory in hex or ASCII



Epson is a registered trademark of Epson America, Inc.
StripWare and Softstrip are trademarks of Cauzin Systems, Inc.
Apple, Imagewriter and ImageWriter II are registered trademarks of Apple Computer, Inc.
Macintosh is a registered trademark of Macintosh Laboratories, Inc., Licensed to Apple Computer, Inc.

Softstrip
COMPUTER READABLE PRINT



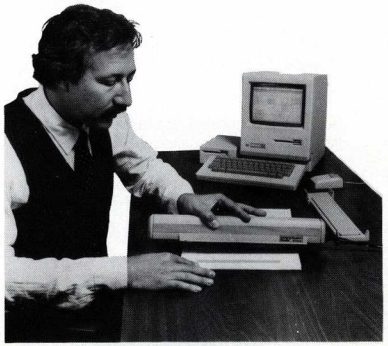
TAKE OUR ADS (SUCH AS THIS ONE)

It's part of the expanding Cauzin StripWare™ Library containing programs, data, clip art, spreadsheet macros and templates. The Library features a variety of software applications and you'll find new material appearing each month in such leading magazines as MAC Apple, MACazine, Mac User, MacWorld and Nibble Mac.

BUT THERE'S STILL MORE . . .

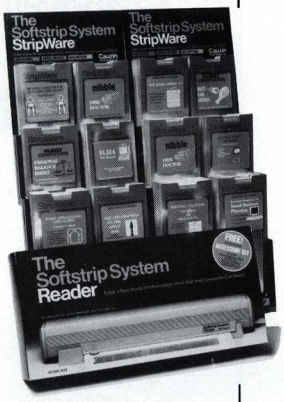
When you invest in the Softstrip System, you get the Softstrip reader, a special storage base, and a full one-year replacement warranty. Also included with your purchase is a complete Accessory Kit containing connector cables and communications software to link your Macintosh to the reader.

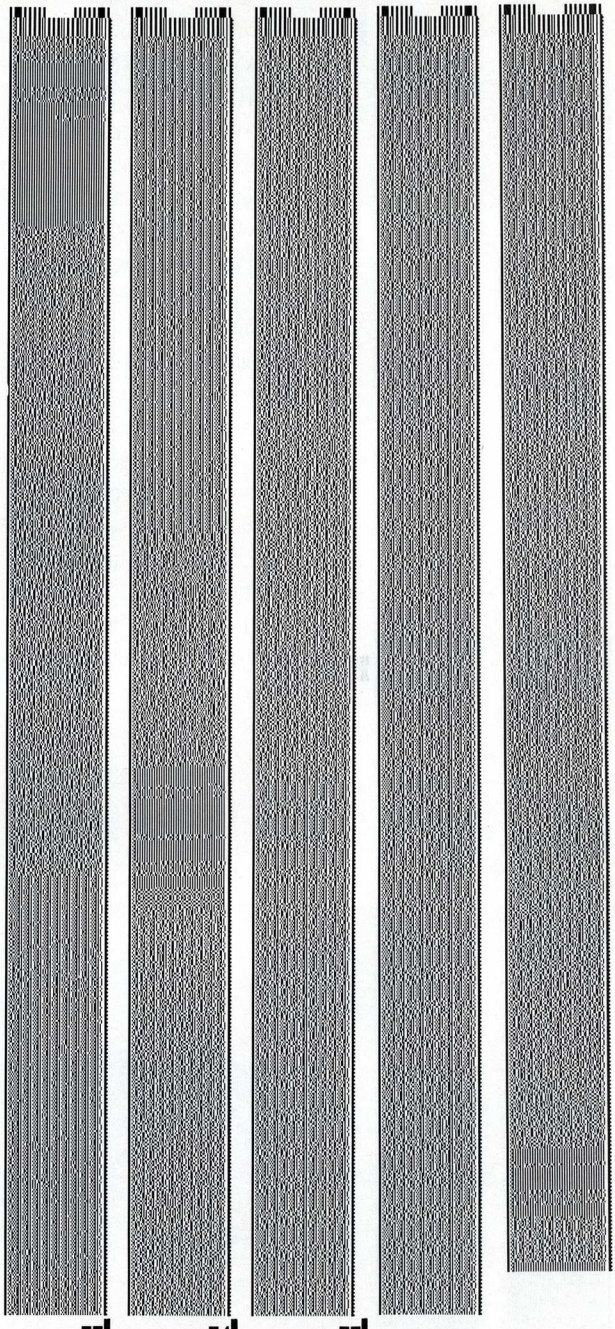
In addition, you'll find a StripWare Library Sampler of 23 programs from a line-up of popular authors and publishers that includes Addison-Wesley, Family Computing, Hayden Books, Nibble Mac, Osborne/McGraw-Hill, The Waite Group, and John Wiley & Sons.



When you become a Softstrip reader owner, you also get a FREE one year StripWare Club membership with programs mailed to you monthly. You'll even receive a FREE Cauzin Effect Newsletter filled with the latest updates and news about Softstrip developments.

There's also StripWare™ brand software in authorized Softstrip dealers across the country. Our collection of titles include everything from utilities, graphics and entertainment to business programs. There is even a StripWare package that lets your Macintosh talk. All for only $2.98 to $19.98!





Softstrip
COMPUTER READABLE PRINT

E1 E2 E3 E4 E5

AND IF THAT'S NOT ENOUGH TO START YOU STRIPPING . . .

Do you want to create you own data strips? Well, now you can with a special StripWare program called "STRIPPER ™" that lets you print your disk files as strips using your own Imagewriter printer. The printing software is only $19.95, but just think of the things you could be stripping. Store backup files on your paper. Print, copy and mail your own programs to others easily and inexpensively. Even exchange ASCII or binary files between different types of computers.

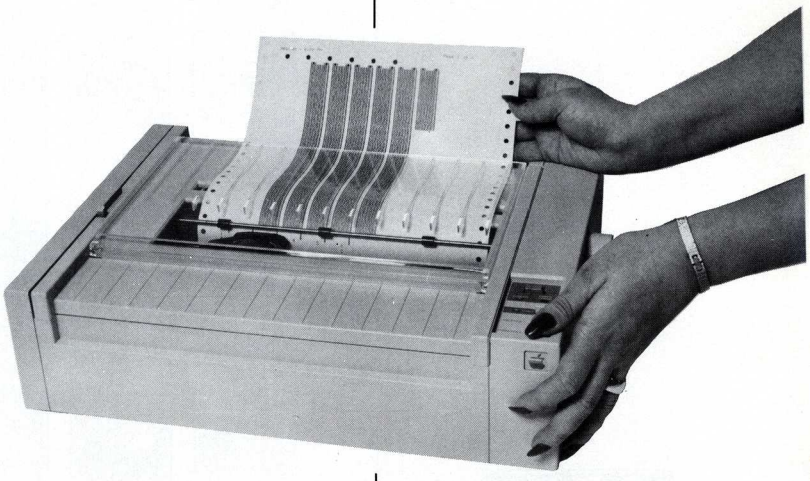
And all you need to start is the Softstrip System. You get everything you need to read strips (like the ones you're seeing in this magazine and others) for just $199.95.

The CAUZIN SOFTSTRIP SYSTEM. It's what Macintosh owners everywhere are talking about. So what are you waiting for? Shouldn't you be stripping too?

For the Softstrip System Dealer nearest you (or if there isn't one in your area, to order), call toll free:

1-800-533-7323
(in Connecticut, 203-573-0150)

Softstrip
COMPUTER READABLE PRINT



HOW TO STRIP

It's easy to read strips.

1) Just load Cauzin's communications software into your Macintosh.

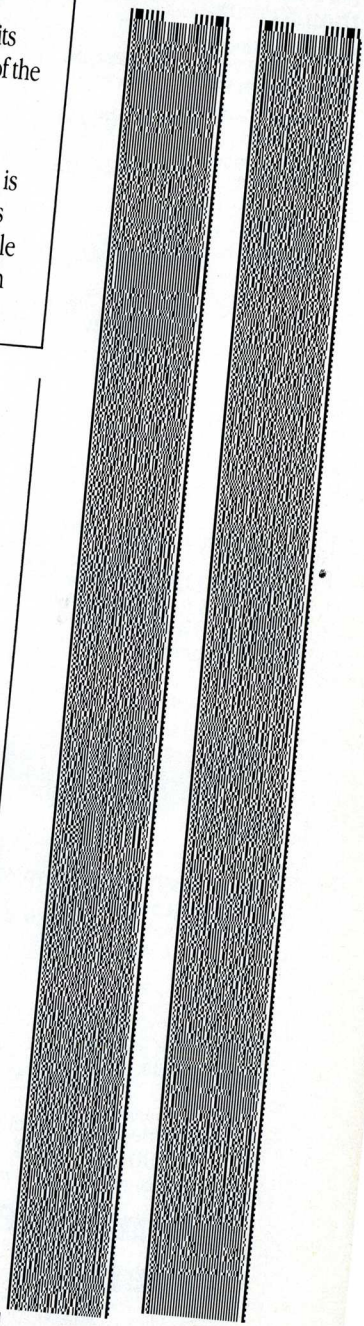
2) Pick up the reader and lay it on the strip.

3) To the side of the data strip you'll see a black dot and a short black line (such as the ones found on these pages). These are your alignment marks.

Place the reader so that its loop fits over the black dot and the edge of the reader just touches the black line.

4) Click "Read Strip".

5) That's all you have to do. The strip is read automatically, and its contents are saved to disk. You can use the file in the same way as if it had come on disk originally.



NOW YOU CAN PRINT YOUR OWN STRIPS!

"STRIPPER™"

It's the make-it-yourself Softstrip™ data strip program. STRIPPER software lets you strip your disk files onto paper.

Put up to 800 bytes on each strip and up to 7 strips on each page. And, if you use a good copier, duplicate the strips you've made.

REQUIRES:

- The Cauzin Softstrip System Reader
- Apple II, Apple II Plus, Apple //e or Apple //c
- Apple Imagewriter or Epson FX or RX printer
- Printer interface card: either a Super Serial Card (built into the Apple //c), Grappler graphics card, or Dumpling graphics card

NOT PHOTOCOPY PROTECTED

ONLY 19.95

StripWare Library Nos. 260-266

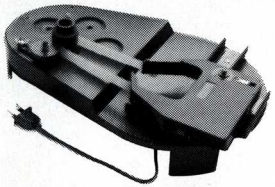
MAC INKER™

Re-ink Any Fabric Ribbon
Automatically for less than 5 cents.

Dedicated Image-writer 1 and 2 (MAC INKER IM) **$42.00** shipping $3.00

Universal Cartridge MAC INKER **$68.50**

Universal Spool MAC INKER **$66.95**



Lubricated, Dot Matrix Ink $3.00/bottle available in black/brown/red/green/yellow/purple/orange and gold.

Over 50,000 MAC INKER(s) in the field.

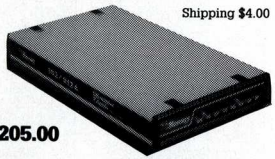
Over 7500 printers supported.

MERCURY MODEM

Really 100% Hayes* Compatible.

- 300/1200 baud.
- audio monitor/front panel lights.
- 8 months warranty.

Shipping $4.00



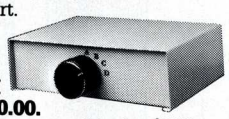
$205.00

*Hayes is a trademark of Hayes Microproducts.

DATA SWITCHES (any type)

MACINTOSH MULTIPORT SWITCH (9 pin). Connect up to 4 peripherals to your printer or modem port.

$50.00



MAC-to-SWITCH cable $10.00.

shipping $3.00

Order Toll Free.
Call or write for free brochure.
1-800-547-3303
In Oregon 503-297-2321 (24 hours line)

Computer Friends®

6415 SW Canyon Ct., #10, Portland, OR 97221,
telex 4949559
Dealer inquiries welcome.

LISTING 1: MacSPRINT *(continued)*

```
'[G3]
BuildPreschoolWord:
    badflag = 0
    FOR i = 1 TO Diff+2
        C$=MID$(Verb$(INT(RND*Verb+1)),(INT(RND*2+1)),1)
        b$=b$+C$
        a$=a$+C$+s$
    NEXT i
    FOR i=1 TO NumbOfBadWords
        IF LEN(b$)<LEN(BadWords$(i)) THEN BPW
        FOR j=1 TO (LEN(b$)-(LEN(BadWords$(i))-1))
            IF BadWords$(i)=MID$(b$,j,LEN(BadWords$(i))) THEN badflag = 1
        NEXT j
BPW:
    NEXT i
    IF badflag THEN GOTO BuildPreschoolWord
    GOTO BuiltString
BuildNormalString:
    IF Type=1 THEN BuildWords
    '[G4]---build numbers
    FOR i=1 TO (2+Diff*2):a$=a$+CHR$(FN NUM(b)):NEXT i
    IF RND>.65 THEN a$=a$+CHR$(FN NUM(b))
    GOTO BuiltString

'[G5]
BuildWords:
    GOSUB RandomizeWords
    IF Diff>1 THEN Diff2
    'Difficulty level 1
    a$=Prep$(PrepRnd)+s$+Art$(ArtRnd(1))+s$+Noun$(NounRnd(1))
    GOTO BuiltString
Diff2:
    IF Diff>2 THEN Diff3
    'Difficulty level 2
    a$=Prep$(PrepRnd)+s$+Art$(ArtRnd(1))+s$
    a$=a$+Adj$(AdjRnd(1))+s$+Noun$(NounRnd(1))
    GOTO BuiltString
Diff3:
    IF Diff>3 THEN Diff4
    'Difficulty level 3
Diff3a:
    a$=Art$(ArtRnd(1))+s$+Noun$(NounRnd(1))+s$+Verb$(VerbRnd)+s$
    a$=a$+Art$(ArtRnd(2))+s$+Noun$(NounRnd(2))
    GOTO BuiltString
Diff4:
    IF Diff>4 THEN Diff5
    'Difficulty level 4
Diff4a:
    b$=Art$(ArtRnd(1))+s$+Adj$(AdjRnd(1))+s$
    b$=b$+Noun$(NounRnd(1))+s$+Verb$(VerbRnd)+s$+Art$(ArtRnd(2))+s$
    a$=b$+Adj$(AdjRnd(2))+s$+Noun$(NounRnd(2))
    IF LEN(a$)<56 THEN BuiltString
    a$=b$+Noun$(NounRnd(2))
    IF LEN(a$)<56 THEN BuiltString
     GOTO Diff3a
Diff5:
    'Difficulty level 5
    b$=s$+Noun$(NounRnd(1))+s$+Verb$(VerbRnd)+s$+Art$(ArtRnd(2))
    C$=s$+Noun$(NounRnd(2))+s$+Prep$(PrepRnd)+s$+Art$(ArtRnd(3))+s$
    D$=Art$(ArtRnd(1))+s$+Adj$(AdjRnd(1))+b$+s$+Adj$(AdjRnd(2))+C$
    a$=D$+Adj$(AdjRnd(3))+s$+Noun$(NounRnd(3))
    IF LEN(a$)<56 THEN BuiltString
    a$=D$+Noun$(NounRnd(3))
    IF LEN(a$)<56 THEN BuiltString
    D$=Art$(ArtRnd(1))+s$+Adj$(AdjRnd(1))+b$+s$+C$
    a$=D$+Noun$(NounRnd(3))
    IF LEN(a$)<56 THEN BuiltString
    D$=Art$(ArtRnd(1))+s$+b$+s$+C$
    a$=D$+Noun$(NounRnd(3))
    IF LEN(a$)<56 THEN BuiltString
    GOTO Diff4a
BuiltString:
    RETURN

'[H]
RandomizeWords:
    'Randomize 3 Articles
    FOR i=1 TO 3:ArtRnd(i)=1+INT(RND+.5):NEXT i
    'Randomize 3 Nouns
    FOR i=1 TO 3:NounRnd(i)=INT(RND*Noun+1):NEXT i
    'Randomize a Preposition
    PrepRnd=INT(RND*Prep+1)
```

continued on page 22

flashed to indicate to the user that there has been a change.

If the speed setting cannot be increased further, the level of difficulty is increased and the speed is set to Average. Check marks indicate the new settings in the Speed and Difficulty menus and the menus are flashed. If neither speed nor difficulty can be adjusted further, the routine returns to its calling routine (DoneCheckInput) within CheckInput.

The second auto-adjust routine [F2] makes the program easier. First, the auto-adjust counters are reset. The program's speed setting is decreased, if possible, and a series of notes going down the scale are played if the sound is turned on. A check mark is placed by the new speed setting in the Speed menu and the menus are flashed.

If the speed setting cannot be decreased, the level of difficulty is decreased and the speed is set to Average. The new settings in the Speed and Difficulty menus are checked, and the menus are flashed. If neither speed nor difficulty can be adjusted, the routine returns to its calling routine (DoneCheckInput) within CheckInput.

Data Strings

Several routines [G1-G5] build the sequences that are flashed in the display window. First, the program forces string compaction. It then sets the switch so scoring can be correctly handled on a quit. Since WordScore is initially zero and scoring is done afterwards, the first pass through BuildString increments the number of attempts rather than the score. Next, the mode switch is checked to determine if Normal mode was selected and if so, control passes to BuildNormalString.

G1 and G2 build sequences for Preschool mode. If Words/Letters were chosen, the program proceeds to BuildPreschoolWord. If numbers were chosen, a simple loop structure builds numbers from 0 to 9, for a total of the difficulty level plus two. Between three and seven numbers will be displayed. The function NUM generates the numbers for the data sequence. The variable B$ is built with this data. A$, the data for display, is built

COPY II MAC™

BACKS UP PROTECTED SOFTWARE.

Copy II Mac does more than just sector copy. Its bit copy program has the built-in power and flexibility to handle most protection schemes automatically and supports single and double-sided drives. (We update Copy II Mac as often as needed to handle new protections; you as a registered owner may update at any time for $15 plus $3 s/h.)

RUNS PROTECTED SOFTWARE FROM YOUR HARD DISK.

Copy II Mac makes using your hard disk (including the Apple hard disk-20) as convenient as it should be. No longer will you have to use the 3½" disk with some of the most popular business software. Call for current list.

GIVE YOUR MAC MORE MUSCLE.

Copy II Mac can even repair some damaged disks and recover accidentally deleted files.

System Requirements: Macintosh or Macintosh Plus, 1 drive. (2 drives, all available memory and hard disks fully supported.)

Call 503/244-5782, M–F, 8–5:30 (West Coast time) with your MasterCard VISA in hand. Or send a check for $39.95 U.S. plus $3 s/h, $8 overseas.

$39.95

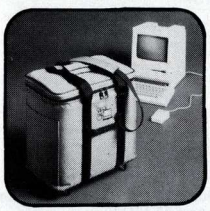
Central Point Software, Inc.
9700 S.W. Capitol Hwy. #100
Portland, OR 97219

Central Point Software INCORPORATED

Backup utilities also available for the IBM, Apple II and Commodore 64/128.

COMPUTER CASES

1986 Style
Dupont® Soft Cordura Fabric/Five different colors



60-100 Mac Case
Retail value $99
Mail-order unit cost $66.33
with wheels add $3.35

60-145 Mac Image Writer
Retail value $89
Mail-order unit cost $59.63

60-010 Dustcovers
Retail value $18
Mail-order unit cost $12.06

Still available while supplies last: 1985-style 60-100, Mac Case, Cordura (gray only), Retail value, $99; Mail-order unit cost $49.50 (vinyl) $44.50.

To order, call now: 1-800-341-3574 Visa & MasterCard accepted
For information, call: (219) 289-7886

T.M KE-LOR®

648 North College Street, South Bend, Indiana 46628
Ke-Lor®, a leader in the case industry.

with the same data as B$ except it has space characters interspersed with the data. The space characters are added to aid the preschooler to see the individual numbers or letters. In Preschool mode, correctness is checked against B$ so that the need for entering those spaces is eliminated. Upon termination of this loop, the program returns to the calling routine, ButtonHandle.

The routine that builds letters in Preschool mode has a simple loop structure [G3]. The loop continues until the difficulty level plus two characters have been obtained — between three and seven characters. The letters are obtained randomly. Once the sequence has been built, it is compared to the list of words to be censored. If the sequence is longer than the word to be censored, each part of the sequence is checked for the censored word. If a censored word is found, another sequence is constructed. Upon termination of this loop, the program returns to the calling routine, ButtonHandle.

The [G4] routine is executed if Normal mode is active. The first thing checked is the type of data to be built. If the data will be words, program flow branches to BuildWords.

Numbers are constructed by a simple loop that chooses between 4 and 12 digits from 0 to 9. The function NUM creates the numbers. A single additional digit may be added to the string length randomly. Upon termination of this loop, the program returns to ButtonHandle.

BuildWords and the following difficulty level routines [G5] build phrases and sentences for display. Random numbers are used as indexes into the arrays containing the words. Then, based on the level of difficulty, those random indexes are used to build the display data. If the data created is longer than 55 characters for difficulty levels 4 and 5 (Hard and Hardest), an attempt is made to reduce the length by removing parts of the sentence. If the length is still at least 56 characters, the program builds a new sequence.

Random Numbers

The RandomizeWords routine [H]

LISTING 1: MacSPRINT *(continued)*

```
    'Randomize 3 Adjectives
    FOR i=1 TO 3:AdjRnd(i)=INT(RND*Adj+1):NEXT i
    'Randomize a Verb
    VerbRnd=INT(RND*Verb+1)
    RETURN

'[J] Sound Stuff
WrongAnswer:
'[J1]
    FOR j = 1 TO 10:SOUND 261.5,.76,200:NEXT j
    RETURN
RightAnswer:
'[J2]
    SOUND 523,6.5,127:SOUND 523,4,127:SOUND 523,2,127:SOUND 698,12,127
    RETURN
NotesUp:
'[J3]
    SOUND 0,6,0:FOR j = 1 TO 7:SOUND Notes(j),3.3,127:NEXT j
    RETURN
NotesDown:
'[J4]
    SOUND 0,6,0:FOR j = 7 TO 1 STEP -1:SOUND Notes(j),3.3,127:NEXT j
    RETURN
Excellent:
'[J5]
    FOR i = 1 TO 12:SOUND 1174,1,127:SOUND 1046,1,127:NEXT i
    RETURN

' [K] --- Display screen data
BuildDisplay:'[K1]
    CALL TEXTFACE(1):LOCATE 3,26:PRINT "MacSPRINT"
    PENNORMAL:MOVETO 113,66:PRINT"Copyright 1986 by MicroSPARC, Inc."
    CALL PENSIZE(5,5)
    CALL FRAMEROUNDRECT(VARPTR(rect(1)),5,5)
    GOSUB FrameButton
    RETURN
SetUpScr:
'[K2]
CALL TEXTFACE(0):LOCATE 1,24:PRINT"MacSPRINT Set Up":PRINT
PRINT"     Use the pull down menus to set up MacSprint according to y►►
our needs."
PRINT
PRINT"    SPEED - sets the time that the flashed sequence will remain ►►
on screen."
PRINT
PRINT"    DIFFICULTY - sets the length of the sequence to be flashed."
PRINT"                         The greater the difficulty the longer ►►
the sequence."
PRINT
PRINT"    MODE - selects either normal or preschool data.  Preschool"
PRINT"              data contains only letters or numbers while nor►►
mal contains "
PRINT"              complete words and phrases."
PRINT
PRINT"    TYPE - selects either words (letters for preschool) or numb►►
ers."
PRINT
PRINT"    SOUND - sets sound either on or off."
RETURN

' [L] --- MENU STUFF
MenuHandler:
'[L1]
    MenuNumb=MENU(0):IF MenuNumb<1 OR MenuNumb>7 THEN RETURN
    MenuItem=MENU(1)
    ON MenuNumb GOSUB AllDone,InstrM,SpeedM,DiffM,ModeM,TypeM,SoundM
    MENU MenuNumb,0,1
    RETURN

BreakHandler:
' [L2] --- Handle a COMMAND-. (period)
    MenuItem=1

AllDone:
'[L3]
    WINDOW CLOSE 2:EDIT FIELD CLOSE 1:BUTTON CLOSE 1:MENU 1,0,1
AllDone1:
    CLS
    CALL TEXTFACE(1):LOCATE 3,26:PRINT "MacSPRINT":CALL TEXTFACE(0)
    IF TotalSw<>0 THEN Score=Score+WordScore
    LOCATE 8,1:PRINT"Your score was ";Score;" out of a possible ";Tot►►
al*2;" points."
```

```
    IF Total>0 THEN TotScore=(Score/(Total*2))*100
    PRINT"This gives you a ranking of ";TotScore;"%."
    IF Total=0 THEN VeryEnd
    LOCATE 11,1
    IF TotScore=100 THEN PRINT"EXCELLENT!!  Use a more difficult sett►►
ing next time.":EndSound=1:GOTO VeryEnd
    IF TotScore>74 THEN PRINT"VERY GOOD!  Use a more difficult settin►►
g next time.":EndSound=2:GOTO VeryEnd
    IF TotScore>49 THEN PRINT"GOOD.  Practice with the same setting n►►
ext time.":EndSound=2:GOTO VeryEnd
    PRINT"POOR.  Try an easier setting next time.":EndSound=3
VeryEnd:
    LOCATE 14,1
    PRINT"When you quit, you were using the ";SpeedTab$(Speed);" spee►►
d and"
    PRINT"the ";DiffTab$(Diff);" level of difficulty in the ";ModeTab►►
$(Mode);" mode."
    IF SoundMode=1 THEN ON EndSound GOSUB Excellent,RightAnswer,Wrong►►
Answer
    BUTTON 1,1,"DONE",(192,280)-(292,305),1
EndIdle:
    Event=DIALOG(0)
    IF WINDOW(0)<>1 AND Event=1 THEN GOSUB WinClose:GOTO EndIdle
    IF Event=1 THEN Endit
    IF Event<>5 THEN EndIdle
    IF WINDOW(0)=2 THEN GOSUB SetUpScr ELSE GOTO AllDone1
    GOTO EndIdle
Endit:
    IF MenuItem=3 THEN SYSTEM
    WINDOW CLOSE 1:END

InstrM:
'[L4]
    WINDOW 2,,(18,36)-(494,324),-2
    BUTTON 2,1,"DONE",(192,260)-(292,285),1
    RETURN
WinClose:
    i=WINDOW(0):IF i<>1 THEN WINDOW CLOSE i
    RETURN

SpeedM:
'[L5]
    IF Speed=MenuItem THEN SpeedM1
    FOR i = 1 TO 5:MENU MenuNumb,i,1:NEXT i:MENU MenuNumb,MenuItem,2
    Speed=MenuItem:NumbWrong=0:NumbCorrect=0
SpeedM1:
    RETURN

DiffM:
'[L6]
    IF Diff=MenuItem THEN DiffM1
    FOR i = 1 TO 5:MENU MenuNumb,i,1:NEXT i:MENU MenuNumb,MenuItem,2
    Diff=MenuItem:NumbWrong=0:NumbCorrect=0
DiffM1:
    RETURN

ModeM:
'[L7]
    IF Mode=MenuItem THEN ModeM1
    FOR i = 1 TO 2:MENU MenuNumb,i,1:NEXT i:MENU MenuNumb,MenuItem,2
    Mode=MenuItem:NumbWrong=0:NumbCorrect=0
ModeM1:
    RETURN

TypeM:
'[L8]
    IF Type=MenuItem THEN TypeM1
    FOR i = 1 TO 2:MENU MenuNumb,i,1:NEXT i:MENU MenuNumb,MenuItem,2
    Type=MenuItem:NumbWrong=0:NumbCorrect=0
TypeM1:
    RETURN

SoundM:
'[L9]
    MENU MenuNumb,1,1:MENU MenuNumb,2,1:MENU MenuNumb,MenuItem,2
    SoundMode=MenuItem
    RETURN

SUB InitMenu STATIC
'[M]
    MENU 1,0,1,"File"
        MENU 1,1,1,"Quit to Basic"
        MENU 1,2,0,"-"
```

continued on next page

generates the random numbers used for access into the word arrays. This routine returns to the calling routine, BuildWords.

Sound

Five short routines create the sounds for an incorrect answer [J1], a correct answer [J2], an automatic increase or decrease in the difficulty level [J3 and J4], and a final fanfare during Quit to celebrate an excellent performance [J5].

Display Screens

The BuildDisplay routine [K1] builds the main window display. SetUpScr [K2] builds the instruction screen for the Set Up item in the How To menu.

A preschool child who can only recognize letters and numbers can also benefit from using MacSPRINT.

Menu Selections

MenuHandler [L1] handles the menu interrupt. It picks up the number of the menu selected (1-7) and the number of the item within that menu. A branch is executed to the correct subroutine. Upon return, the menu title is set to its normal display of black on white.

BreakHandler [L2] is the point to which the Break interrupt or <Command>. is vectored. This routine simulates the File menu Quit item request by setting the menu item number to that of Quit. It then falls through to the File menu handler.

The AllDone entry point [L3] handles the File menu. Initially all the windows are closed except the main window. The main window's edit field and button are closed and the File menu title is unhighlighted. The

closing screen is displayed, showing scoring, performance evaluation and the program settings at the time you quit. The program then waits for the Done button to be clicked to close the main window, reset the program menu and quit to BASIC or the Desktop.

InstrM [L4] creates the appropriate window and button for the instructions. SpeedM [L5] handles the new speed setting. If the new setting is the same as the original, the routine simply returns. Otherwise, the check mark is removed from the original setting and placed at the new setting, and the auto-adjust counters are reset.

DiffM, ModeM, TypeM and SoundM [L6-L9] work similarly to SpeedM, but process information about difficulty level, mode, type and sound, respectively.

Menus and Word Lists

Subroutine [M] initializes the pull-down menus. Subroutine [N] builds all the word lists. It also reverses the letters of the censored words as they are read from the DATA statements.

MODIFYING MACSPRINT

The most obvious place to modify the program is in the word lists. I wouldn't recommend changing the article list because the routine in RandomizeWords that randomly selects the articles depends on the size of the list. The other lists, however, can be changed quite easily.

Substituting one word for another does not require any other changes to the program. If you wish to delete or add some entries, you must modify the appropriate count field. For example, to add five verbs to the verb list, you would modify the verb count in the variable Verb, near the beginning of the program in section [A].

You may want to modify the sound routines. You could substitute more dramatic tunes for the current ones. Each sound routine is independent, so changing one will not affect another. You should also note that these sound routines are used when you quit the program. So if your new tunes don't work while in the Quit routine, just add what you need and modify the ON-GOSUB in the AllDone routine.

LISTING 1: MacSPRINT *(continued)*

```
        MENU 1,3,1,"Quit to Desktop"
    MENU 2,0,1,"How To"
        MENU 2,1,1,"Instructions"
    MENU 3,0,1,"Speed"
        MENU 3,1,1,"Slowest"
        MENU 3,2,1,"Slow"
        MENU 3,3,2,"Average "
        MENU 3,4,1,"Fast"
        MENU 3,5,1,"Fastest"
    MENU 4,0,1,"Difficulty"
        MENU 4,1,1,"Easiest"
        MENU 4,2,1,"Easy"
        MENU 4,3,2,"Average "
        MENU 4,4,1,"Hard"
        MENU 4,5,1,"Hardest"
    MENU 5,0,1,"Mode"
        MENU 5,1,2,"Normal"
        MENU 5,2,1,"Preschool "
    MENU 6,0,1,"Type"
        MENU 6,1,2,"Words/Letters"
        MENU 6,2,1,"Numbers "
    MENU 7,0,1,"Sound"
        MENU 7,1,2,"On"
        MENU 7,2,1,"Off "
END SUB

' [N] --- build word lists
BuildWordList:
    FOR i = 1 TO 5:READ SpeedTab$(i):NEXT i
    FOR i = 1 TO 5:READ DiffTab$(i):NEXT i
    FOR i = 1 TO 2:READ ModeTab$(i):NEXT i
    FOR i = 1 TO Art:READ Art$(i):NEXT i
    FOR i = 1 TO Prep:READ Prep$(i):NEXT i
    FOR i = 1 TO Noun:READ Noun$(i):NEXT i
    FOR i = 1 TO Adj:READ Adj$(i):NEXT i
    FOR i = 1 TO Verb:READ Verb$(i):NEXT i
    FOR i = 1 TO NumbOfBadWords    'reverse the inverted bad words
        READ Temp$
        FOR j = LEN(Temp$) TO 1 STEP -1
            BadWords$(i)=BadWords$(i)+MID$(Temp$,j,1)
        NEXT j
    NEXT i
    z=FRE(Ø)
    RETURN

' --- info tables
DATA SLOWEST,SLOW,AVERAGE,FAST,FASTEST
DATA EASIEST,EASY,AVERAGE,HARD,HARDEST
DATA NORMAL,PRESCHOOL
' --- data lists
' --- Articles
DATA A,THE
' --- Prepositions
DATA AT,BY,IN,ON,NEAR,TO,FROM,DOWN,OFF,THROUGH,OUT,PAST,UP
DATA OF,FOR,WITH,LIKE,ABOUT,ABOVE,ACROSS,AFTER,AGAINST,ALONG
DATA AMONG,AROUND,BEFORE,BEHIND,BELOW,BENEATH,BESIDE,BETWEEN
DATA BEYOND,DURING,EXCEPT,INSIDE,OUTSIDE,OVER,UNDER,INTO,ONTO
DATA UPON,WITHIN,WITHOUT
' --- Nouns
DATA HOUSE,TREE,BOAT,CAR,BICYCLE,RAFT,LAKE,STREAM,RIVER,BUSH
DATA FLOWER,PLANT,SHACK,TENT,DESK,PENCIL,PEN,DOOR,WALL,WINDOW
DATA CLOCK,BOOK,BIRD,DOG,CAT,STREET,POLE,HILL,ROCK,PUDDLE
DATA KEY,VASE,PILLOW,MONEY,CAVE,FORK,SPOON,DISH,CUP,GLASS
DATA SCHOOL,CLASS,SHIRT,FISH,TIE,CHAIR,SOFA,STEP,LADDER,STOVE
' --- Adjectives
DATA WET,RED,GREEN,BLUE,DRY,SLIPPERY,LONG,FAT,SHORT,TALL
DATA SKINNY,BIG,SMALL,HUGE,LITTLE,BLACK,BURNT,TINY,ENORMOUS,WEIRD
DATA VIOLET,SWEET,SMELLY,HARD,YELLOW,SOFT,FAR,LOUD,QUIET,NEW
DATA WILD,BROWN,FRAGILE,BROKEN,ORANGE,COLORFUL,WHITE,ROUGH
DATA SMOOTH,STRIPED,SAD,LARGE,FUNNY,MESSY,SHARP,DUMPY
DATA GRAY,CROOKED,HOT,COLD
' --- Verbs
DATA RAN,JUMPED,WALKED,SWAM,COVERED,BROKE,FIXED,GOT,PUT,TOOK
DATA DROVE,PILOTED,PUSHED,SHOOK,STOPPED,DRANK,ATE,CLIMBED
DATA THREW,CAUGHT,MADE,READ,CARRIED,DROPPED,REPLACED,TICKLED
DATA PULLED,LIFTED,TOSSED,FLEW,EXPLODED,STACKED,PLACED,RODE
DATA PLAYED,WROTE,HUNG,PLANTED,BURIED,REMOVED,WATCHED,TOLD
DATA SWUNG,ATTACKED,KILLED,KISSED,HELD,KICKED,HIT,TRIPPED
DATA BURNED,FIXED,REPAIRED,DESTROYED,ENTERED
' --- Randomized words to be censored
DATA DAB
END OF LISTING 1
```

Cauzin Strips for MacSPRINT

SECOND FEATURE

CURSOR EDITOR

Cursor Editor makes the otherwise tedious job of creating custom cursors easy. Using simple, FatBits-style drawing techniques, you can create original cursors for use in your own programs.

by Victor Barger, Rt. 2, Waunakee, WI 53597

All Macintosh programs employ the unique mouse-controlled cursor. The shape of the cursor represents different states of operation: a watch signifies that the computer is busy, an I-beam allows the user to change the text insertion point or highlight a range of text, and cross hairs are used for plotting pixels, drawing lines or forming rectangles.

Cursor Editor (**Listing 1**), enables you to design different cursors for use in your Microsoft (MS) BASIC programs. A number of useful cursors have been preprogrammed: the watch, the I-beam, the hand and several others. A sample program and description are included to show you how to use these or other cursors in your programs.

USING THE PROGRAM

Start the program by double-clicking on its icon in the Finder or by opening and running it from within Microsoft BASIC. Whenever the computer is busy, the present cursor will change into a watch and whenever menus cannot be used, they are dimmed. Many of the menu options have command key equivalents. To use them, just hold down the command key (⌘) while pressing the letter. Once you are familiar with the program, you will find editing, saving and printing cursors is much faster using the command key.

DESIGNING A CURSOR

First, choose Edit under the Special menu. A window like the one in **Figure 1** will open in the center of the screen, without the star in the edit boxes. To draw the cursor, set the pixels in the left edit box exactly as you would in MacPaint's FatBits. (The cursor is displayed in actual size in the tiny box under the Erase button.)

Clicking the Mask button under the Mask edit box copies the image of the cursor to the right edit box. When the Macintosh draws a cursor, it begins by erasing any pixels on the screen that are set in the mask. Then it exclusive OR's (XOR) the cursor's pixels with that area. (See **Figure 2** for the step-by-step process.) **Table 1** indicates what the resultant pixel would be after an XOR, depending on the status of the shape and background pixels.

The watch is an example of a cursor which should overlay the background, since the face should always be white. The I-beam is an example of a cursor without any mask, thus the background always shows up behind it. The mask may also be used to achieve special effects, as shown with the circle cursor in **Figure 3**. Filling in the mask causes the cursor to obscure any text or graphics that it covers, while leaving the mask open

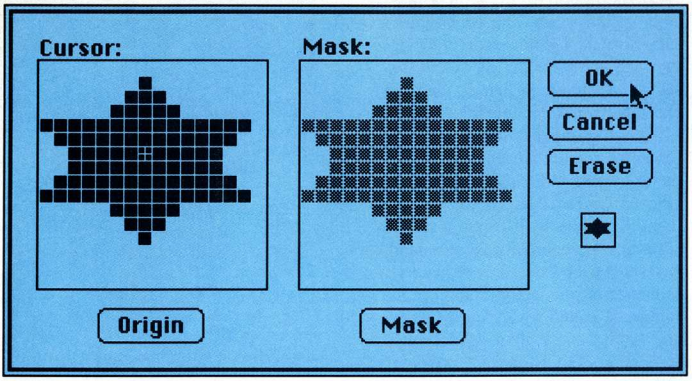


FIGURE 1: The Editing Window

allows it to encircle a selection.

The Macintosh also needs to know where to position the cursor in relation to the mouse. Apple refers to this as the hot spot. In the program, however, it is referred to as the origin.

Clicking the Origin button under the left edit box will change the cursor to dashed cross hairs. Position the cross hairs on top of the pixel you wish to become the hot spot and click. The small cross moves from where it was to the pixel on which you clicked.

There are three additional buttons you may use. OK saves the cursor in memory and displays it (this takes about seven seconds, since the computer has to convert decimal numbers to 16-bit binary numbers and store them in an array). Erase erases the present cursor and its mask. Cancel closes the editing window without saving the changes.

Once the cursor has been designed, it must be saved to disk. Create a new file using the Create Cursor File option under the File menu (**Figure 4**). Choose Add to add your cursor to the file. You may add several cursors to one file if you choose. When you have added all of the cursors you wish to use, close the file. Now you have a cursor file and can start writing your program.

Cursors are saved by the Cursor Editor program as text files, so they can easily be added to your own basic programs. The Load Cursor From File option under the File menu (see **Figure 4**) will allow you to load one cursor at a time from a cursor file you have created. This option will only work with unchanged cursor files, so it is a good idea to keep them around for future use.

To use this option, select Load Cursor From File, and from the standard dialog box, select the file which contains the cursor you wish to load. Cursor Editor will examine the file, tell you how many cursors it contains, and ask you which one you want to load. Type in the number of the cursor you wish to load (i.e., if you want the third cursor in the file, type a 3) and press the OK button. The cursor will be read into memory (this takes about 10 seconds). Now you can either select Edit to edit the cursor, or you can open a new cursor file and add the cursor to it.

USING A PREPROGRAMMED CURSOR

To use one of the preprogrammed cursors, just select the one you want from the Special menu. It will be loaded into memory, and then you may either edit it or add it unchanged to a cursor file (see Designing a Cursor).

USING THE CURSOR IN A PROGRAM

There are several methods for getting the cursor data (saved on disk) into your program. One way is to open the cursor data file in BASIC and program around it (in which case the cursor data file becomes the actual program file). Another option is to use the MERGE command, which will add the cursor file to the end of your program. An easier way, however, is to open the cursor data file in BASIC, copy everything onto the Clipboard, open the destination program file and paste the data into your program.

The Cursor Demo program (**Listing 2**) is designed to help you try out cursors you have designed. To use it, run Cursor Editor, design a cursor, and save it as My Cursor. Open the My Cursor file, and you will see the data for the cursor you have designed neatly represented as DATA statements. Copy the entire listing to the Clipboard. Now open the Cursor Demo program, and scroll to the end. Paste the cursor data into the Cursor Demo program, and save it as My Demo. Running the program will now display your cursor, and allow you to draw dots with it to check its operation.

Four basic commands are used to program with cursors:

1. INITCURSOR resets the present cursor to the standard arrow pointer.
2. SETCURSOR(VARPTR(Cursor Name(0))) changes the present cursor to the cursor specified by the data in the integer array Cursor-

TABLE 1: Pixel Status After an XOR

Shape Pixel	Background Pixel	Resultant Pixel
Black	White	Black
Black	Black	White
White	White	White
White	Black	Black

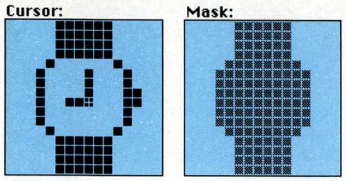

Cursor:
Mask:
Cursor drawn with the mask:
Screen Background
Erases pixels specified by the mask
XORs pixels specified by the shape
Cursor drawn without the mask:
Screen Background
Erases pixels specified by the mask
XORs pixels specified by the shape

FIGURE 2: How the Cursor is Drawn

Name. *Note:* If a DEFINT a-z statement is not used at the beginning of the program to specify all variables to be integers, the variable name CursorName must be followed by a percent sign (CursorName%(0)).

3. HIDECURSOR hides the cursor, making it invisible.
4. SHOWCURSOR shows the cursor, making it visible.

ENTERING THE PROGRAM

To key in Cursor Editor, use MS BASIC (binary version, 2.0 or higher) to enter the program shown in **Listing 1**. Then save it as Cursor Editor. Similarly, enter the program shown in **Listing 2** and save it as Cursor Demo. For help with entering these programs, see "A Welcome to New Readers" at the beginning of this issue.

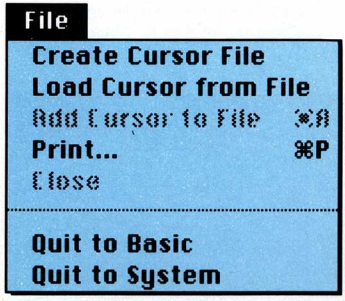


FIGURE 4: Cursor Editor Menu

HOW THE PROGRAM WORKS

Cursor Editor begins with a few initialization steps. The watch cursor data is read in, the cursor is changed into a watch with the SETCURSOR statement, the menu bar is initialized, and other variables are initialized.

After the initialization, the cursor is reset, the menus are enabled, and menu event handling is established with an ON MENU GOSUB statement. The Idle loop continuously scans the keyboard for a command key sequence. Once a command key sequence is pressed, the appropriate routine is called by setting MenuId and ItemId and calling MenuEvent2. If a menu item is chosen from the menu bar, the Idle loop is interrupted and program execution is turned over to the menu event handler, MenuEvent. MenuEvent selects the appropriate menu subroutine, File or Special, and calls it.

The File subroutine dims the menus and goes to the Create, Load, Add, Print, Close, Basic, or Quit options. Create (called Nw in the program) gets the name of the new file and, if the Cancel button was not clicked, disables the Create menu item, enables the Add and Close items, and opens the file for output.

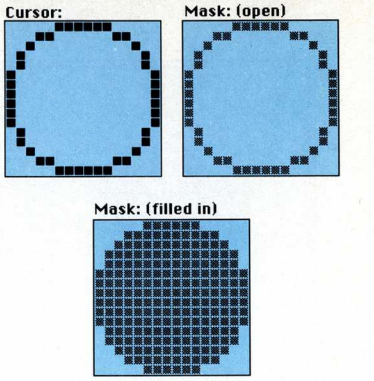


FIGURE 3: Effect of the Mask

MacSPRINT, Cursor Editor and MS BASIC Program Shell are available on diskette for an introductory price of $19.95 plus $1.50 shipping/handling ($2.50 outside the U.S.) from Nibble Mac, 45 Winthrop St., Concord, MA 01742. Introductory price expires 8/31/86.

Note: When keying in the program, do *not* press <Return> at the end of lines that contain the ►► symbol. See "A Welcome to New Readers" for details.

LISTING 1: Cursor Editor

```
'Cursor Editor
'By Victor Barger
'Copyright 1986 by microSPARC, Inc.
'Concord, MA  01742
'Microsoft Basic v2.0 (Binary)

'Initialize variables, window, and menu bar.

DEFINT a-z
DIM CArray$(720)
DIM Watch(33),cursor(33),BlackBox(9),GreyBox(9),r1(3),r2(3),r3(3)
DIM Cross(33),vals(15),Max(100),MaxQ(100),Dit$(1),er1(3),er2(3),er3(3)
DIM Grid(15,15,1),lcross(9),lcur(33)
FOR j=0 TO 33:READ Watch(j):NEXT:SETCURSOR(VARPTR(Watch(0)))
Init
Dit$(0)="":Dit$(1)="":Old=1:alt=1:CName$=""
WindowId=2:true=1:false=0:xh=0:yh=0
FOR j=0 TO 100:READ Max(j):NEXT
FOR j=0 TO 100:READ MaxQ(j):NEXT
FOR j=0 TO 16:Cross(j)=128:NEXT:Cross(7)=32767:Cross(32)=7:Cross(33)=8
FOR j=0 TO 16 STEP 2:lcur(j)=128:NEXT:lcur(7)=32767
lcur(32)=7:lcur(33)=8:lcur(6)=128:lcur(8)=128
FOR j=3 TO 9:lcross(j)=2048:NEXT:lcross(0)=8:lcross(1)=8:lcross(6)=32512
FOR j=3 TO 9
    BlackBox(j)=32512
    IF alt=1 THEN GreyBox(j)=21760:ELSE GreyBox(j)=10752
    alt=NOT alt
NEXT
BlackBox(0)=8:BlackBox(1)=8:BlackBox(2)=0
GreyBox(0)=8:GreyBox(1)=8:GreyBox(2)=0
r1(0)=23:r1(1)=11:r1(2)=154:r1(3)=142
```

```
r2(0)=23:r2(1)=159:r2(2)=154:r2(3)=290
r3(0)=110:r3(1)=319:r3(2)=130:r3(3)=339
er1(0)=24:er1(1)=12:er1(2)=153:er1(3)=141
er2(0)=24:er2(1)=160:er2(2)=153:er2(3)=289
er3(0)=111:er3(1)=321:er3(2)=129:er3(3)=338
FOR j=0 TO 15:READ vals(j):NEXT

'Reset cursor to pointer and establish menu event interrupt.
INITCURSOR
MENU 1,0,1:MENU 2,0,1:fflag = false
ON MENU GOSUB MenuEvent:MENU ON
WINDOW 4,"",(8,27)-(504,334),2
TitleScreen

'Idle loop.  Checks keyboard for a command key.
idle:
    a$="":WHILE a$="":a$=INKEY$:WEND:a=ASC(a$)
    MenuId=0
    IF a=5 THEN MenuId=2
    IF a=1 OR a=16 THEN MenuId=1
    IF MenuId=0 THEN BEEP:GOTO idle
    ItemId = 0
    IF a=5 THEN ItemId=1
    IF a=16 THEN ItemId=4
    IF a=1 AND fflag = true THEN ItemId=3
    IF ItemId <> 1 AND ItemId <> 3 AND ItemId <> 4 THEN BEEP:GOTO idle
    GOSUB MenuEvent2:GOTO idle

'Menu Event Handler.

MenuEvent:
    MenuId=MENU(0):ItemId=MENU(1)
MenuEvent2:
    ON MenuId GOSUB file,Special
    IF MenuId=1 THEN MENU 1,0,1:MENU 2,0,1
RETURN

'Items under File menu.

file:
    MENU 1,0,0:MENU 2,0,0
    ON ItemId GOTO Nw,Opn,Sve,Prnt,Clse,Nul,Basic,Quit

Nw:
    file$=FILES$(0,"Cursor file name:")
    IF file$="" THEN RETURN
    MENU 1,1,0:MENU 1,3,1:MENU 1,5,1:fflag = true
    OPEN file$ FOR OUTPUT AS 1
RETURN

Opn:
Dit$(0) = "This erases the cursor in memory."
Dit$(1) = "Continue?"
MaxDitQ
IF DialogOK = 0 THEN RETURN
ON ERROR GOTO ErrTrap
file$ = FILES$(1)
IF file$ = "" THEN RETURN
SETCURSOR(VARPTR(Watch(0))):MENU 1,0,0:MENU 2,0,0
OPEN file$ FOR INPUT AS 2
x = 1
WHILE x < 720
    INPUT #2,CArray$(x)
    NumItems = x
    IF EOF(2) = -1 THEN x = 721
    x = x+1
WEND
CLOSE #2
INITCURSOR
numCursors = NumItems/36
WINDOW 3,"",(100,100)-(350,180),2
PRINT"There are ";numCursors;" cursors in this file"
PRINT"Which one do you want?"
BUTTON 1,1,"OK",(204,56)-(244,76),1
getcval:
EDIT FIELD 1,"",(8,32)-(50,44)
mvt = 0
WHILE mvt <> 6 AND mvt <> 1 :mvt = DIALOG(0):WEND
whichcurs = VAL(EDIT$(1))
IF whichcurs <1 OR whichcurs > numCursors THEN BEEP:GOTO getcval
WINDOW CLOSE 3
INITCURSOR:SETCURSOR(VARPTR(Watch(0)))
whichcurs = whichcurs -1
```

continued on next page

The cursor load routine, called Opn in the program, first asks for confirmation, then gets the name of the cursor file to read. The file is read into memory, and the number of cursors is determined (each cursor occupies 36 array spaces). Next, the user is asked which cursor to use, and the selected cursor is moved into the Cursor( ) array. Finally, the Backwards routine is called to load the cursor into the Grid( ) array where it can be edited. Save (Sv) gets the name of the cursor and, if the Cancel button was not clicked, adds the present cursor to the file. Print (Prnt) also gets the name of the cursor, but it sends the output to the printer.

Close (Clse) first asks the user to verify the closing of the cursor file, closes it, disables the Close and Add menu items, and enables the Create menu item.

The Special subroutine branches to Edit (Edt) if the selected item was '1' or reads the values for a preprogrammed cursor into the grid. Edit (Edt) disables the menus, establishes its window, and draws the cursor and its mask. Then it monitors the mouse for a button event or press of the mouse button and, depending on which one happens, either performs the button functions — Cancel, Origin or Mask — or toggles a pixel in one of the two edit boxes (MouseEvent1 and MouseEvent2).

After the Dialog loop has ended, the subroutine either returns immediately (after a Cancel buttonpress) or codes the cursor, displays it on the screen, enables the menus and returns to the main subroutine. The subroutine Backwards takes compiled cursor data and converts it into a bit map for display on the screen.

At the end of the program are the MaxDit, MaxDitQ, Confirm, and Init subroutines, all of which were explained in my previous article, "Pattern Designer" (see *Nibble Mac*, Sept./Oct. 1985, page 28).

CONCLUSION

Cursor Editor makes it very easy to design custom cursors for your programs, and insulates you from the tedious details involved in translating a screen image into DATA statements.

ASK
ABOUT
OUR FREE
SHIPPING
VIA FED
EXPRESS

TRY BEFORE
YOU BUY

MANUALS INCLUDED
RENTAL APPLIES TO PURCHASE
Over 400 Titles

	RENT	SELL
DejaVu	10.50	32.90
Doll &Sen	18.75	72.50
Easy3D	16.85	59.40
Excel	53.25	211.50
Fokker	11.95	39.50
Gato	9.95	31.50
Helix	49.75	218.90
Mac3D	28.85	105.30
Macdraft	34.85	116.10
MacSpell+	13.90	48.80
Overvue	36.90	132.70
Readysetgo	24.75	108.90
Tempo	13.50	53.50
Thun'scan	37.75	170.50
TML Pascal	19.50	60.00
Smartmodem		359.00
Mac Upgrades		CALL

Sony Disks

SS/ $1.60
DS/ $2.45

Ribbons 6-pak

Black $19.95
Color $23.95

MacRENTALS™
P.O. Box 6093•Kingwood,TX 77325
Order Hotline:
1-800-972-3018
(713) 360-4649

LISTING 1: Cursor Editor *(continued)*

```
'get cursor data from file
    cursor(0) = VAL( RIGHT$(CArray$(3+(whichcurs*36)),LEN (CArray$(3+►►
(whichcurs*36))) - 5))
    FOR x = 4 + (whichcurs*36) TO 14 + (whichcurs*36)
        cursor(x-(3+ (whichcurs*36))) = VAL( CArray$(x))
    NEXT
    cursor(12) = VAL( RIGHT$(CArray$(15 + (whichcurs*36)),LEN (CArray►►
$(15+(whichcurs*36))) - 5))
    FOR x = 16 + (whichcurs*36) TO 26 + (whichcurs*36)
        cursor(x-(3+ (whichcurs*36)))  = VAL(CArray$(x))
    NEXT
    cursor(24) = VAL(RIGHT$(CArray$(27 + (whichcurs*36)),LEN (CArray$►►
(27+(whichcurs*36))) - 5))
    FOR x = 28 + (whichcurs*36) TO 36 + (whichcurs*36)
        cursor(x-(3+ (whichcurs*36))) = VAL(CArray$(x))
    NEXT
GOSUB Backwards
MENU 2,Old+2,1:Old = 1:MENU 2,3,2
OpnRtn:
ON ERROR GOTO 0
RETURN

ErrTrap:
Dit$(0) = "Error translating file"
Dit$(1) = "It must be a cursor only file"
MaxDit
MENU
RESUME OpnRtn

Sve:
    GOSUB GetName:IF DialogOK=0 THEN RETURN
    PRINT#1,"'":PRINT#1,"'Cursor data for the cursor ";CName$:hp=0:ptr=0
    WHILE ptr<34
        a$=STR$(cursor(ptr)):ptr=ptr+1
        WHILE INSTR(a$," ")>0:a$=RIGHT$(a$,LEN(a$)-1):WEND:hp=hp+1
        IF hp>1 THEN PRINT#1,","a$;:IF hp=12 THEN hp=0:PRINT#1,""
        IF hp=1 THEN PRINT#1,"DATA "a$;
    WEND:PRINT#1,"":a$=INKEY$
RETURN

Prnt:
    GOSUB GetName:IF DialogOK=0 THEN RETURN
    WINDOW 2,,(80,106)-(442,184),2:TEXTFONT 0:MOVETO 12,24
    PRINT"Please turn on the printer and click OK to continue."
    BUTTON 1,1,"OK",(101,46)-(161,66),1
    BUTTON 2,1,"Cancel",(201,46)-(261,66),1:DialogActive=1:DialogOK=1
    WHILE DialogActive
        IF DIALOG(0)=1 THEN DialogActive=0:IF DIALOG(1)=2 THEN Dialog►►
OK=0
    WEND
    IF DialogOK=0 THEN WINDOW CLOSE 2:RETURN
    SETCURSOR(VARPTR(Watch(0)))
    BUTTON CLOSE 1:BUTTON CLOSE 2:CLS
    MOVETO 12,40:PRINT"Printing the cursor data . . ."
    LPRINT"Cursor data for the cursor ";CName$:hp=0:ptr=0
    WHILE ptr<34
        a$=STR$(cursor(ptr)):ptr=ptr+1
        WHILE INSTR(a$," ")>0:a$=RIGHT$(a$,LEN(a$)-1):WEND:hp=hp+1
        IF hp>1 THEN LPRINT ","a$;:IF hp=12 THEN hp=0:LPRINT
        IF hp=1 THEN LPRINT "DATA "a$;
    WEND:LPRINT
    INITCURSOR:WINDOW CLOSE 2:RETURN

Clse:
    Dit$(0)="Are you sure you want to close the"
    fa$=file$
    WHILE INSTR(fa$,":")>0
        fa$=RIGHT$(fa$,LEN(fa$)-INSTR(fa$,":"))
    WEND
    Dit$(1)="cursor file "+fa$+"?"
    MaxDitQ
    IF DialogOK=false THEN RETURN
    CLOSE 1
    MENU 1,1,1:MENU 1,3,0:MENU 1,5,0:fflag = false
RETURN

Nul:
    RETURN

Basic:
    Confirm
    IF DialogOK=false THEN RETURN
```

```
    END
Quit:
    Confirm
    IF DialogOK=false THEN RETURN
    SYSTEM

GetName:
    WINDOW 2,,(119,69)-(393,160),2:TEXTFONT 0:MOVETO 12,24
    PRINT"Cursor name:"
    EDIT FIELD 1,CName$,(12,29)-(262,44),1,1
    BUTTON 1,1,"OK",(12,59)-(72,79),1
    BUTTON 2,1,"Cancel",(202,59)-(262,79),1:DialogActive=1:DialogOK=1
    WHILE DialogActive
        EventType=DIALOG(0)
        IF EventType=6 THEN DialogActive=0
        IF EventType=1 THEN DialogActive=0
        IF EventType=1 AND DIALOG(1)=2 THEN DialogOK=0
    WEND:CName$=EDIT$(1):IF CName$="" THEN DialogOK=0
    WINDOW CLOSE 2:RETURN

'_____________________________________________________________
'Items under Special menu.

Special:
    IF ItemId=1 THEN Edt
    MENU 2,Old+2,1:Old=ItemId-2:MENU 2,Old+2,2
    IF Old=1 THEN CName$="My Cursor":RETURN
    SETCURSOR(VARPTR(Watch(0))):MENU 1,0,0:MENU 2,0,0
    ON Old-1 GOSUB CrossH,Han,IBem,Penc,Str,Wat
    FOR j=0 TO 33:READ cursor(j):NEXT:GOSUB Backwards
    MENU 1,0,1:MENU 2,0,1:RETURN

CrossH:
    RESTORE CrossHairs:CName$="Cross Hairs":RETURN
Han:
    RESTORE Hand:CName$="Hand":RETURN
IBem:
    RESTORE IBeam:CName$="I-Beam":RETURN
Penc:
    RESTORE Pencil:CName$="Pencil":RETURN
Str:
    RESTORE Star:CName$="Star":RETURN
Wat:
    RESTORE Watch:CName$="Watch":RETURN

Edt:
    MENU 1,0,0:MENU 2,0,0:WINDOW 2,,(70,77)-(442,272),2:TEXTFONT 0
    SETCURSOR(VARPTR(Watch(0)))
    MOVETO 12,21:PRINT"Cursor:":MOVETO 160,21:PRINT"Mask:"
    CALL FRAMERECT(VARPTR(r1(0)))
    CALL FRAMERECT(VARPTR(r2(0)))
    CALL FRAMERECT(VARPTR(r3(0)))
    BUTTON 1,1,"OK",(300,24)-(360,44),1
    BUTTON 2,1,"Cancel",(300,49)-(360,69),1
    BUTTON 3,1,"Erase",(300,74)-(360,94),1
    BUTTON 4,1,"Origin",(46,164)-(106,184),1
    BUTTON 5,1,"Mask",(194,164)-(254,184),1
    nchng=1
    FOR y=0 TO 15:FOR x=0 TO 15
        IF Grid(x,y,0)=1 THEN PUT(x*8+12,y*8+24),BlackBox:PSET(x+321,►►
y+112)
        IF Grid(x,y,1)=1 THEN PUT(x*8+160,y*8+24),GreyBox
    NEXT:NEXT:INITCURSOR:PUT(xh*8+12,yh*8+24),Icross
    ON MOUSE GOSUB MouseEvent1:MOUSE ON
    DialogActive=true:DialogOK=true:CType=1
    WHILE DialogActive
        EventType=DIALOG(0)
        IF EventType=6 THEN DialogActive=false
        IF EventType<>1 THEN NotButton
            ButtonId=DIALOG(1)
            IF ButtonId=2 THEN DialogOK=false
            IF ButtonId=1 OR ButtonId=2 THEN DialogActive=false:GOTO ►►
NotButton
            IF ButtonId=4 THEN nchng=0:GOTO Origin
            IF ButtonId=5 THEN nchng=0:GOTO Mask
                ERASE Grid:DIM Grid(15,15,1):CALL ERASERECT(VARPTR(er►►
1(0)))
                CALL ERASERECT(VARPTR(er2(0))):CALL ERASERECT(VARPTR(►►
er3(0)))
                PUT(xh*8+12,yh*8+24),Icross:INITCURSOR:GOTO NotButton
            Origin:
                MOUSE OFF:SETCURSOR(VARPTR(Icur(0)))
                WHILE MOUSE(0)>-1:WEND
```

continued on next page

128K >>>----------> 4096K

Bay Area Computer

Memory

FOR YOUR

Macintosh

We can supply you with cost effective, reliable, memory upgrades, to 4 megabytes. With our simple two page instructions, and about 15 minutes of your time you can have more memory, in increments of .5 meg. All tools and special supplies are included, along with a simple to install fan, so that your Mac doesn't lose it's cool!

Macintosh Plus...?

Yes, Macintosh Plus Too...! We will be suppling the new Mac + memory "Modules", in .5 and 1 meg. versions that gives your Mac+ 2 or 4 megabytes...in a few minutes!

Something Free.....?

Yes it's true, something free! It's called "Power Steering™", and it's our answer to mousepads.

Four virgin teflon "buttons" that insert in your mouse, and eliminates the need for a low friction pad.

When they wear out, yank out the old ones, and press in the new ones.....Simple!

Questions..?

CALL US TODAY

Tell us how much memory you presently have, and how much you need.
That's all there is to it .....

PH. 1-813-360-8617

- - All Trademarks Apply - -

SONY®

3½" SS DISKS

Boxed in tens

FREE Sony VHS or BETA video tape with every 30 Sony boxed dieskettes you buy!!

100+	50+	30+
$1.65	$1.69	$1.72

Packaged in fifties

400+	100+	50+
$1.53	$1.59	$1.64

maxell®

3½" SS DISKS

Boxed in tens

100+	50+	30+
$1.49	$1.59	$1.69

Packaged in fifties

100+	50+
$1.45	$1.55

Nashua™

3½" SS DISKS

Boxed in tens

100+	50+	30+
$1.39	$1.47	$1.55

ROLLTOP FILES

3½" model holds 55 .... 17.49 (Retail Value $24.95)

5¼" model holds 120 .... 24.99 (Retail Value $36.00)

RIBBONS

Epson MX-70/80 ..... 2.59	Okidata Micro 84/94 ..... 2.90
Epson MX-100 ..... 3.99	Diablo Hytype II 3.19
Epson LQ 1500 ..... 4.99	C. Itoh Prowriter 3.09
Epson LX80 ..... 4.99	APPLE IMAGEWRITER
Okidata Micro 801/ 82A/83A/92 ..... 1.29	Black 3.09
	Color, six-pack 4.09

Ribbons sold in sixes

CALL TOLL FREE 1 800 USA-FLEX

IN ILLINOIS 1 800 FOR-FLEX

7 to 7 CENTRAL TIME 10 to 3 SATURDAYS

Shipping/handling additional Minimum order $50.00. Visa, MasterCard and Prepaid orders accepted. Corporations rated 3A2 or better and government accounts are accepted on a net 30 basis. C.O.D. orders add an additional $5.00 special handling charge.
APO, FPO, AK, HI & PR orders add an additional 5% to the total order amount to cover PAL and insurance. No sales tax outside of Illinois.

USA★FLEX

135 N. Brandon Drive Glendale Heights, IL 60139

LISTING 1: Cursor Editor *(continued)*

```
                x1=INT((MOUSE(1)-12)/8):y1=INT((MOUSE(2)-24)/8)
                IF x1<0 OR x1>15 OR y1<0 OR y1>15 THEN NotButton
                PUT(xh*8+12,yh*8+24),Icross:xh=x1:yh=y1
                PUT(xh*8+12,yh*8+24),Icross:INITCURSOR
                MOUSE ON:GOTO NotButton
            Mask:
                SETCURSOR(VARPTR(Watch(0))):ERASERECT(VARPTR(er2(0)))
                FOR y=0 TO 15:FOR x=0 TO 15:Grid(x,y,1)=Grid(x,y,0)
                IF Grid(x,y,1)=1 THEN PUT(x*8+160,y*8+24),GreyBox
                NEXT:NEXT:INITCURSOR
        NotButton:
        st=MOUSE(0):x=MOUSE(1):y=MOUSE(2)
        IF (x<13 OR x>286 OR y<25 OR y>150) AND CType=2 THEN INITCURS►►
OR:CType=1:GOTO 4
        IF x<13 OR x>286 OR y<25 OR y>150 THEN 4
        IF CType=1 THEN SETCURSOR(VARPTR(Cross(0))):CType=2
4  WEND
    MOUSE OFF
    IF DialogOK=0 THEN WINDOW CLOSE 2
    IF DialogOK=0 AND nchng=0 THEN GOSUB Backwards
    IF DialogOK=0 THEN 11
    SETCURSOR(VARPTR(Watch(0)))
    FOR y=0 TO 15:v1=0:v2=0:FOR x=0 TO 15
        IF Grid(x,y,0)=1 THEN v1=v1+vals(x)
        IF Grid(x,y,1)=1 THEN v2=v2+vals(x)
    NEXT:cursor(y)=v1:cursor(y+16)=v2:NEXT:cursor(32)=yh:cursor(33)=xh
    WINDOW 2,,(31,40)-(479,313),2:TEXTFONT 0
    SETCURSOR(VARPTR(cursor(0)))
    PRINT"This is the cursor.  Holding down on the mouse button and m►►
oving"
    PRINT"the mouse will draw points on the screen.  Click OK to exit."
    BUTTON 1,1,"OK",(194,242)-(254,262),1:DialogActive=1
    WHILE DialogActive
        IF MOUSE(0)<0 THEN PSET(MOUSE(1),MOUSE(2))
        IF DIALOG(0)=1 THEN DialogActive=0
    WEND
    INITCURSOR:WINDOW CLOSE 2
11 MENU 1,0,1:MENU 2,0,1:RETURN

MouseEvent1:
    x1=INT((MOUSE(1)-12)/8):y1=INT((MOUSE(2)-24)/8)
    IF x1<0 OR x1>15 OR y1<0 OR y1>15 THEN MouseEvent2
    nchng=0:IF Grid(x1,y1,0)=1 THEN stat=0:ELSE stat=1
    WHILE MOUSE(0)<0
        x1=INT((MOUSE(1)-12)/8):y1=INT((MOUSE(2)-24)/8)
        IF x1<0 OR x1>15 OR y1<0 OR y1>15 THEN 6
        IF Grid(x1,y1,0)=stat THEN 6
        PUT(x1*8+12,y1*8+24),BlackBox:Grid(x1,y1,0)=stat
        IF stat=1 THEN PSET(x1+321,y1+112):ELSE PRESET(x1+321,y1+112)
6  WEND
    RETURN

MouseEvent2:
    x1=INT((MOUSE(1)-160)/8):y1=INT((MOUSE(2)-24)/8)
    IF x1<0 OR x1>15 OR y1<0 OR y1>15 THEN RETURN
    nchng=0:IF Grid(x1,y1,1)=1 THEN stat=0:ELSE stat=1
    WHILE MOUSE(0)<0
        x1=INT((MOUSE(1)-160)/8):y1=INT((MOUSE(2)-24)/8)
        IF x1<0 OR x1>15 OR y1<0 OR y1>15 THEN 7
        IF Grid(x1,y1,1)<>stat THEN PUT(x1*8+160,y1*8+24),GreyBox:Gri►►
d(x1,y1,1)=stat
7  WEND
RETURN

Backwards:
    SETCURSOR(VARPTR(Watch(0))):yh=cursor(32):xh=cursor(33)
    FOR j=0 TO 15
        FOR d=0 TO 1
            k=cursor(j+d*16)
            Grid(0,j,d)=0
            IF k<0 THEN k=k-vals(0):Grid(0,j,d)=1
            FOR x=1 TO 15
                Grid(x,j,d)=0
                IF k-vals(x)>=0 THEN Grid(x,j,d)=1:k=k-vals(x)
            NEXT
        NEXT
    NEXT
    INITCURSOR
RETURN

'Data for different pre-designed cursors and MaxUs bitmap.
```

```
'Watch cursor data
Watch:
DATA 2016,2016,2016,2016,2064,4232,4232,4236
DATA 5004,4104,4104,2064,2016,2016,2016,2016
DATA 2016,2016,2016,2016,4080,8184,8184,8184
DATA 8184,8184,8184,4080,2016,2016,2016,2016,8,8

'MaxPics
DATA 33,33,-1,-1,0,-32641,-1,0,-32641,-1
DATA 0,-32641,-1,0,-32641,-1,0,-32641,-32641,0
DATA -30594,31,0,-30596,15,0,-30600,7175,0,-32648
DATA 7175,0,-32656,7171,0,-32656,7171,0,-32656,7171
DATA 0,-32656,7171,0,-32656,7171,0,-32656,7171,0
DATA -32656,7171,0,-32656,7171,0,-32656,7171,0,-32656
DATA 7171,0,-30736,3,0,-32272,7171,0,-32272,7175
DATA 0,-32272,7175,0,-32272,15,0,-32288,31,0
DATA -28800,127,0,-32257,-1,0,-32257,-1,0,-32257
DATA -1,0,-32257,-1,0,-1,-1,0,0,0,0

DATA 33,33,-1,-1,0,-32641,-1,0,-32641,-1
DATA 0,-32641,-1,0,-32641,-1,0,-32641,-32641,0
DATA -30594,31,0,-30596,15,0,-30600,7,0,-32648
DATA 16135,0,-32656,32643,0,-32656,-61,0,-32656,-7741
DATA 0,-32656,-7741,0,-32656,451,0,-32656,963,0
DATA -32656,1923,0,-32656,3843,0,-32656,7683,0,-32656
DATA 7171,0,-30736,7171,0,-32272,3,0,-32272,7175
DATA 0,-32272,7175,0,-32272,7183,0,-32288,31,0
DATA -28800,127,0,-32257,-1,0,-32257,-1,0,-32257
DATA -1,0,-32257,-1,0,-1,-1,0,0,0,0

'Values for each bit in a 16-bit number.
DATA -32768,16384,8192,4096,2048,1024,512,256,128,64,32,16,8,4,2,1

CrossHairs:
DATA 0,256,256,256,256,256,256,256,32764,256,256,256,256
DATA 256,256,0,0,896,896,896,896,896,896,-2,-258
DATA -2,896,896,896,896,896,896,0,7,7

Hand:
DATA 384,6768,9800,9802,4685,4681,26633,-26623,-30718,16386,8194,8196
DATA 4100,2056,1032,1032,384,7152,16376,16378,8191,8191,28671,-1
DATA -2,32766,16382,16380,8188,4088,2040,2040,9,8

IBeam:
DATA 25344,5120,2048,2048,2048,2048,2048,2048,2048,2048,2048
DATA 2048,2048,2048,2048,5120,25344,0,0,0,0
DATA 0,0,0,0,0,0,0,0,0,0,0,0,2,4

Pencil:
DATA 960,544,1056,1600,2496,2176,4224,4352,8448,8704
DATA 16896,17408,30720,28672,24576,16384,960,992,2016,1984
DATA 4032,3968,8064,7936,16128,15872,32256,31744,30720,0,0,0,15,1

Star:
DATA 0,256,896,1984,-2,32764,16376,16376,32764,-2,1984,896
DATA 256,0,0,0,0,256,896,1984,-2,32764,16376,16376
DATA 32764,-2,1984,896,256,0,0,0,6,7

'Subroutines which operate Max.

SUB MaxDit STATIC
    SHARED Max(),WindowId,Dit$()
    WINDOW WindowId,,(69,84)-(443,201),2:BEEP:TEXTFONT 0
    PUT(34,10),Max:BUTTON 1,1,"OK",(20,87)-(80,107),1
    MOVETO 100,22:PRINT Dit$(0):MOVETO 100,38:PRINT Dit$(1)
    WHILE DIALOG(0)<>1
    WEND
    WINDOW CLOSE WindowId
END SUB

SUB MaxDitQ STATIC
    SHARED MaxQ(),WindowId,Dit$(),DialogOK
    DialogOK=1
    WINDOW WindowId,,(69,84)-(443,201),2:BEEP:TEXTFONT 0
    PUT(34,10),MaxQ
    BUTTON 1,1,"OK",(20,87)-(80,107),1
    BUTTON 2,1,"Cancel",(100,87)-(160,107),1
    MOVETO 100,22:PRINT Dit$(0):MOVETO 100,38:PRINT Dit$(1)
    WHILE DIALOG(0)<>1
    WEND
    IF DIALOG(1)=2 THEN DialogOK=0
    WINDOW CLOSE WindowId
END SUB
```

continued on next page

Pacific Prime **"Personal Software Service"**
for Apple Macintosh ™

This is a partial list of Macintosh software and accessories currently carried. For a full catalog, see ordering instructions and policy below.

***ACCESSORIES		MAC THE KNIFE-VOL 2	29.00
COLOR PENS	10.00	MACPLOT	115.00
COLORPACK	19.00	MCPIC-VOLUME 2	30.00
DISC DIRECTORY (32)	19.00	MCPIC-VOLUME 1	30.00
EASELS (20)	12.00	PASTE EASE	35.00
MACTOTE	62.00	SLIDE SHOW MAGICIAN	36.00
MOUSE MOVER	15.00	STATWORKS	89.00
POCKET PAKS (10)	10.00	THE MAC ART DEPARTMENT	24.00
PRINTTOTE	70.00	VIDEO WORKS	55.00
SONY 3.5" DS DISKETTE	29.50	***HARDWARE	
SONY 3.5" SS DISKETTE	19.50	2 TIME WANDS	136.00
UNDERWARE RIBBON	10.00	BAR CODE SYSTEM	560.00
***BUSINESS		MACFAN	85.00
COMPLETE ACCOUNTNT	480.00	MACNIFTY STEREO SYSTEM	60.00
CONSTRUCTION ESTIMATR	42.00	SMARTMODEM 1200B	367.00
DECISION MAP	79.00	THUNDERSCAN	175.00
EXCEL	225.00	TIME WAND RECHARGER	105.00
FINANCIAL COOKBOOK	32.00	***HOME & GAME	
GENERAL LEDGER W(A/P)	330.00	ACHIEVEMENT TEST	57.00
INVENTORY MANAGER	200.00	ANCIENT ART OF WAR	27.00
INVENT. MANAGER W(A/R)	300.00	ART GRABBER	30.00
MAC BUSINESS PAK	340.00	BALANCE OF POWER	29.00
MAC ONE WRITE	135.00	BARON	30.00
MACLABLER	29.00	CONCERT WARE+	39.00
MACSTORE	290.00	CYBORG	23.00
MACWHOLESALER	490.00	DEJA VU	32.00
MICROSOFT: MULTIPLAN	109.00	DINNER AT EIGHT	36.00
MICROSOFT: CHART	74.00	ENCHANTED SCEPTERS	26.00
QUICK PAINT	29.00	FOKKER TRIPLANE	36.00
QUICK WORD	36.00	GRID WARS	22.00
QUICKSET	29.00	HARRIER STRIKE MISSION	29.00
RAGS TO RICHES (3 VOL)	280.00	HOME DESIGN	48.00
RAGS TO RICHES - A/R	102.00	LASSER'S TAX GUIDE	50.00
RAGS TO RICHES - G/L	102.00	LODE RUNNER	23.00
RAGS TO RICHES - A/P	102.00	MAC-CHALLENGER	25.00
READYSETGO V2.0	74.00	MACATTACK	29.00
SIDEKICK	43.00	MACROBOT	32.00
STRICTLY BUSINESS	239.00	MILLIONAIRE	30.00
THINK TANK 512K	100.00	MIND FOREVER VOYAGING	27.00
ZAP! INVOICE	51.00	MOUSE STAMPEDE	24.00
***COMMUNICATION		PROFESSIONAL COMPOSER	240.00
INTOUCH	79.00	PYRAMID OF PERIL	20.00
MAC MAIL	32.00	RACTER	28.00
MACLINK W/CABLE	107.00	REAL POKER	20.00
MACLINE	86.00	SARGON III	30.00
MOUSE EXCHANGE TERMINAL	28.00	STRATEGIC CONQUEST	30.00
MOUSE EXCHANGE BBS	28.00	TELLSTAR: LEVEL II	43.00
SMARTCOM II	89.00	TELLSTAR: LEVEL 1	28.00
TURBO DOWNLOAD	26.00	THE HOUSEKEEPER	31.00
***DATA BASE MANAGEMENT		TYCOON	30.00
BUSINESS FILEVISION	237.00	ULTIMA III	42.00
FILEVISION	99.00	UTOPIA	27.00
HAYDEN:BASE	89.00	WILL WRITER	28.00
HELIX (V1.0)	99.00	WIZARDRY 1	36.00
MACLION	50.00	WORD PLAY	30.00
MEGAFILER	116.00	***OFFICE MANAGEMENT	
MICROSOFT: FILE	112.00	BATTERY PACK	29.00
OMNIS 3	245.00	BULK MAILER	79.00
OVERVUE	146.00	COMPUFORM	24.00
PFS: FILE & REPORT	105.00	DESK TOPPERS	30.00
PLEASE	129.00	EXECUTIVE OFFICE	195.00
***EDUCATION		MAC MANAGER	30.00
ALGEBRA WORD PROBLEMS	34.00	MICROPLANNER	275.00
AMER. HISTORY ADVENTURE	40.00	MIGHTY MAC	36.00
ANALOGIES	43.00	MY OFFICE	85.00
CHIPWITS	26.00	*PROGRAMMING LANGUAGES	
DELUXE MUSIC CONSTRUCT.	32.00	EXPEROPS5	161.00
KIDTALK	48.00	LINKER	62.00
MASTERTYPE NEW & IMPR'D	30.00	MAC C V4.0	269.00
MATH BLASTER	30.00	MACNOSY V2	60.00
MATH FLASH	30.00	MICROSOFT: BASIC V2.1	89.00
PINBALL CONSTRUCTION	28.00	MICROSOFT: FORTRAN	175.00
POWERMATH	55.00	***SCIENCE & MATH	
PRENATAL BABY CARE	25.00	QUALITY ANALYST	315.00
SPANISH GRAMMAR 1	25.00	STATVIEW	109.00
SPELLER BEE	48.00	***UTILITY	
THE PERFECT SCORE-SAT	47.00	ACCESSORY PACK 1	24.00
THINKFAST	22.00	DISK RANGER	32.00
TURBO TURTLE	36.00	ICON LIBRARY - BUS. UTL.	12.00
TYPING TUTOR III	35.00	ICON LIBRARY - FUN & GAMES	12.00
WORD CHALLENGE II	24.00	ICON SWITCHER	12.00
***GRAPHICS & FONTS		MAC MEMORY DISK	22.00
ART A LA MAC VOL.1	24.00	MAC/SERVE	176.00
ART A LA MAC VOL.2	24.00	MACMATE	35.00
ART PORTFOLIO	35.00	MACTYPE	30.00
CARD SHOPPE	35.00	MACZAP	36.00
CLICK ART LETTERS	30.00	N'CRYPTOR	26.00
CLICKART EFFECTS	30.00	Q & D UTL. I	28.00
CLICKON WORKSHEET	48.00	Q & D UTL. II	28.00
CRICKET GRAPH	139.00	TEMPO	68.00
EASY3D	69.00	TISTART	45.00
FONTASTIC	28.00	TOSHSTART	27.00
FONTS FOR HEADLINES	41.00	TURBOCHARGER	56.00
FONTS FOR TEXT	29.00	***WORD PROCESSING	
FULL PAINT	65.00	JUST TEXT	140.00
GRAPHIC ACCENTS	29.00	MAC-SPELL-RIGHT	65.00
IN MOTION	86.00	MACSPELL+	57.00
MAC DRAFT	139.00	MICROSOFT: WORD	111.00
MAC LOGO	74.00	THE RIGHT WORD	65.00
MAC THE KNIFE-VOL 1	23.00	TYPE NOW	26.00
MAC THE KNIFE -VOL 3	29.00		

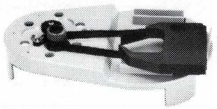
Pacific Prime
213-376-5820

P.O. Box 1838
Redondo Beach, CA
90278

• Get your FREE CATALOG by ordering any one program from Pacific Prime, or send in **$1** for the catalog only. • Free Pacific Prime Membership granted when you order at least one program. • California residents add **6.5%** sales tax. •Shipping **$3** minimum, **$1** for each added program. •We accept CERTIFIED CHECKS, PERSONAL CHECKS, MONEY ORDERS and COMPANY CHECKS. •CORPORATE and SCHOOL PURCHASE ORDERS **net in 30 days**.

CUT PRINTER RIBBON COSTS BY 75% OR MORE.

DON'T BUY NEW RIBBONS
RE-INK YOUR OLD ONES.
Re-ink printer ribbons for less than a nickel.



Now...for the Imagewriter

Unique motor-driven MK/II inker replaces ink in fabric ribbons by capillary action. There is a model for virtually ANY ribbon cartridge. No handling the ribbon, the cassette stays closed. Comes complete with a supply of special lubricant ink. Great for letter quality printers too. Thousands of MK/II printers used world wide.

MK/II INKER, with 2 oz. black ink .....
$54.94 includes Shipping (U.S.A. only)

Ship To:
NAME: _____
ADDRESS: _____
CITY: _____ *STATE:* ____ *ZIP:* _____
MAKE-MODEL OF PRINTER: _____
(Please use street address as UPS cannot deliver to a P.O. Box.) Penna. residents add 6% sales tax.
Payment Enclosed ____ *Check or money order (No cash, Please.)*
*MASTERCARD*_____ *VISA*_____ *(No Premium)*
*Card No:*___/___/___/___ *Exp. Date:*___/___
*Signature:*_____

Mail To:

BULLPENN PRODUCTS
P.O. BOX 3517 YORK, PA 17402-3517
(717) 848-8223

MDC II T.M.
MAC DISK CATALOG II

STOP SEARCHING FOR LOST FILES. LET MDC-II FIND THEM FAST!

MDC II for the 512K Mac, Plus and XL has the features you've been looking for: • Insert Disks to Catalog them • Fully indexed database • Find and Select files and volumes • 4000 to 6000 entries on a 512K • Volume IDs • 16 Standard and 16 User definable Categories • Category Learn Mode • Edit all fields • Print Reports, Diskette Labels and 3X5 Cards.

New Version for HD20 & HFS

MDC II - $49.95 • Mac Disk Catalog™ for the 128K - $39.95 • Pinfeed MDCLabels™ Red, Blue, Green, Yellow, Gray or mixed 150 - $11.95 • 250 - $19.95 • 500 - $39.95. Shipping & Handling $3.00 ($5.00 foreign) per order. Visa & MasterCard Accepted.

new canaan MicroCode
136 Beech Rd. New Canaan, CT 06840 (203) 966-6969

LISTING 1: Cursor Editor *(continued)*

```
SUB Confirm STATIC
    SHARED MaxQ(),WindowId,Dit$(),DialogOK
    Dit$(0)="Are you sure you want to quit?":Dit$(1)=""
    MaxDitQ
END SUB

'When a line ends with a number of opt-spaces instead of entering
'spaces as shown hold down the option key and type the number of
'spaces specified.

SUB Init STATIC
    MENU 3,0,0,"":MENU 4,0,0,"":MENU 5,0,0,"":c$=CHR$(17)
    MENU 2,0,0,"Special":MENU 1,0,0,"File"
        MENU 2,1,1,"Edit          "+c$+"E":REM 10 opt-spaces
        MENU 2,2,0,"-"
        MENU 2,3,2,"Personalized"
        MENU 2,4,1,"Cross Hairs"
        MENU 2,5,1,"Hand"
        MENU 2,6,1,"I-Beam"
        MENU 2,7,1,"Pencil"
        MENU 2,8,1,"Star"
        MENU 2,9,1,"Watch"
        MENU 1,1,1,"Create Cursor File"
        MENU 1,2,1,"Load Cursor from File"
        MENU 1,3,0,"Add Cursor to File  "+c$+"A":REM 2 opt-spaces
        MENU 1,4,1,"Print...            "+c$+"P":REM 11 opt-spaces
        MENU 1,5,0,"Close"
        MENU 1,6,0,"-"
        MENU 1,7,1,"Quit to BASIC"
        MENU 1,8,1,"Quit to Desktop"
END SUB

SUB TitleScreen STATIC            'Opening screen
    WINDOW 1,"",( 105, 50)-( 400, 270), -2
    TEXTFACE(1)
    j = 10:RESTORE TitleData
    FOR i = 1 TO 5
        READ S$
        j = j + 20
        IF i = 3 OR i = 5 THEN j = j + 20
        MOVETO  (300-LEN(S$)*7.5)/2, j
        PRINT S$
    NEXT i
TitleData:
    DATA "Cursor Editor", "by Victor Barger"
    DATA"Copyright 1986 by MicroSPARC, Inc.","Concord, MA  01742"
    DATA "Click Ok and select menu item to begin."
    BUTTON  1,1,"Ok",( 160, 175)-(220, 200), 1
    WHILE DIALOG(0)<>1: WEND
    TEXTFACE(0)
    WINDOW CLOSE 1
    RESTORE
END SUB
```

END OF LISTING 1

LISTING 2: Cursor Demo

```
'Cursor Demo
'by Victor Barger
'Copyright 1986 by microSPARC, Inc.
'Concord, MA  01742
'Microsoft Basic v2.0 (Binary)

'This is a program to test cursors created with Cursor Editor

DEFINT a-z
WINDOW 1,,(40,60)-(471,301),3
ON ERROR GOTO ErrTrap

DIM Watch(33),Pencil(33)
FOR j=0 TO 33:READ Watch(j):NEXT
FOR j=0 TO 33:READ Pencil(j):NEXT
Cursor=1:DialogActive=1

LINE(20,20)-(350,221),,b
BUTTON 1,1,"Erase",(360,20)-(420,40),1
BUTTON 2,1,"Quit",(360,50)-(420,70),1

WHILE DialogActive
```

```
    IF DIALOG(0)=1 THEN GOSUB ButtonEvent
    Stat=MOUSE(0):x=MOUSE(1):y=MOUSE(2)
    CALL PtInRect(20,20,350,221)
    IF InRect=1 AND Cursor=1 THEN SETCURSOR(VARPTR(Pencil(0))):Cursor=2
    IF InRect=0 AND Cursor=2 THEN INITCURSOR:Cursor=1
    IF Stat=-1 AND InRect THEN PSET(x,y)
WEND
END

ButtonEvent:
    ButtonId=DIALOG(1)
    IF ButtonId=1 THEN LINE(21,21)-(349,220),0,bf
    IF ButtonId=2 THEN WINDOW CLOSE 1:DialogActive=0
RETURN

SUB PtInRect(x1,y1,x2,y2) STATIC
    SHARED x,y,InRect
    IF x>x1 AND x<x2 AND y>y1 AND y<y2 THEN InRect=1 ELSE InRect=0
END SUB

ErrTrap:
    IF ERR <> 4 THEN GOTO 10
    CLS:LOCATE 4,1
    PRINT"You must add the data statements for your cursor"
    PRINT "to the end of this demo program before running it."
    FOR x = 1 TO 10000:NEXT:END
10 ON ERROR GOTO 0
RESUME

'
'Cursor data for the cursor Watch
DATA 2016,2016,2016,2016,2064,4232,4232,4236,5004,4104,4104,2064
DATA 2016,2016,2016,2016,2016,2016,2016,4080,8184,8184,8184
DATA 8184,8184,8184,4080,2016,2016,2016,2016,8,8
'
'Paste the data for your cursor here --
```

END OF LISTING 2

Cauzin strips for Cursor Editor appear on page 38.

ILLUSTRATE YOUR IDEAS

WITH THE

MAC—ART LIBRARY

Eleven disks full of MacPaint Images

Including:

Sports	Transportation
Animals	Greeting Card Art
Plants	Buildings
Tools	In the Kitchen
Geography	On the Farm
Signs/Symbols/Borders	

Available through your local computer store or from:

CompuCraft
P.O. Box 3155
Englewood, CO 80155
303-850-7472

Full Library — $200 Single Disks — $29.95
Also available: A Single Disk **SAMPLER** — $39.95

10 Day Money Back Guarantee!
Add $3.00 For Shipping & Handling

CALL TOLL FREE 1-800-382-2242

NORTHEASTERN Software

88 Ryders Lane, Stratford, Connecticut 06497

(See Below) **WE WILL BEAT**

- Tap our unmatched selection and inventory of software/hardware for the Mac and Apple (as well as the IBM PC and Commodore Amiga).
- School and corporate purchase orders are welcomed. CALL 1-800-874-1108.
- Special/rush orders. If something you need is not listed, hard to find, or needed in a hurry, CALL 1-800-874-1108.
- Order Status. CALL (203) 375-3860.
- Ask for System Sales when ordering a complete system.
- FREQUENT PURCHASER PROGRAM. Any repeat customer will automatically receive $1 off any order he or she places with us. Please mention to your operator that you are a repeat customer. We value your continuing business. Send in $1,000 worth of invoices (representing previous purchases) and you will receive a coupon worth 1% off any future purchase. With $5,000 worth of invoices, receive a coupon worth 5% off any future purchase.
- No additional charges for credit card orders.
- Convenient hours. 7 days/week: 9AM–11 PM EST.
- FREE AIR EXPRESS SHIPPING. Purchase $150 or more of software and for no additional charge we will ship your products by air courier. Mention this to your operator as you place your order.
- FURTHER DISCOUNTS BY MAIL. Circle the items in our ad you want, send the aid in with the coupon below and receive $ .50 off each item! Cut out a competitor's ad with a lower price and we will give you $1 off his price (subject to the conditions below).

Send coupon and list of items desired to:
DISCOUNT BY MAIL DEPARTMENT
Northeastern Software, 88 Ryders Lane, Stratford, CT 06497

To be eligible for the $1.00 per item discount you must:
1. Fill out all items. 2. Send in our ad with the items you desire circled.

Name_____

Address_____
(Include Company Name)

City_____ State_____ Zip_____

Phone No. at above address_____

Check form of payment
Visa MasterCard C.O.D. Personal Check
Certified Check Money Order

Card No._____ Exp. Date_____

Computer Model _____

Personal and company checks allow 3 weeks to clear. For faster delivery, send cashier's check, certified check, or money order. Shipping–Software ($3.00 minimum). Shipping–Hardware (please call 203-375-3860). COD–Add an addition $2.00. Alaska, Hawaii, Canada, PO, APO, and FPO $5.00 minumum. Foreign orders–$15.00 minimum and 15% of all orders over $100. Mastercard and Visa (please include card no. and expiration date). Connecticut residents add 7.5% sales tax. Prices subject to change without notice. All returns must have a return authorization number. Call 203-375-3860 to obtain one before returning goods for replacement. Defective merchandise replaced with same item only. We do not guarantee compatibility. All sales are final. "Comparable advertised price" does not include typographical errors on the part of other vendors or prices that do not reflect higher shipping costs, credit card charges, or membership fees. The $1 off offer only applies to items where Northeastern's price is not already the lowest. Final judgment remains with the manager on duty.

SPECIALS

Copy II Mac	18.75
Cricket Graph	136.00
Excel	221.00
Fontastic	23.50
Gato	24.75
Haba 800K Drive	255.00
Harrier Strike Mission	23.50
Imagewriter Ribbons	4.25
Mac Golf	34.00
Mac Lightning	257.50
Microsoft Word	108.00
Microsoft Typographer	108.00
Quick and Dirty Vol. 2	26.50
Sidekick with Phone Link	55.50
Supercrunch	187.00
ThinkTank 512K	95.00
Thunderscan (New Version)	166.00
Turbocharger	54.00
Wizardry I	33.00

ACCESSORIES

AMERICAN TOURISTER	
Mac Carrying Case-Amer Tourist	59.00
APPLE COMPUTER	
Mac Security Kit	CALL
ASSIMILATION PROCESS	
Mac Numeric Turbo	CALL
Mac Port Adaptor	CALL
Mac Turbo Touch	CALL
Mac Daisy Wheel Connection	CALL
Mac Epson Connection	CALL
AST RESEARCH	
Ramstack 1.5 MB	995.00
Ramstack 512K	575.00
Ramstack 2 MB	1575.00
Ramstack 1 MB	795.00
AUTOMATION FACILITIES	
Micro Clean	CALL
Floppyclean Refill	CALL
Floppyclean 3½	CALL
CRT Work Station Kit	CALL
Printer Keyboard Kit	CALL
CREIGHTON DEVELOPMENT	
Proprint w Cable	51.00
Proprint	37.00
Proprint w/AB Switch & 2 Cable	134.00
CURTIS MANUFACTURING	
Ruby Surge Suppressor	48.00
Emerald Surge Suppressor	42.00
Diamond Surge Suppressor	27.00
DIVERSIONS INC.	
Underwave Color Ribbon	CALL
Underwave Jumbo Pens	CALL
Underwave Colorpack	CALL
Underwave Carbon Paper/Pens	CALLA
Underwave Black Ribbons	CALL
ENVIRONMENTAL SOFTWARE	
Mac Cover Complete-Environment	14.00
Dust Cover laserwriter-Mac Att	16.50
Dust Cover Keypad-Mac Attire	5.00
Dust Cover Printer 15-Mac Atti	12.50
Dust Cover DisK Crive-Enviranm	5.00
Dust Cover Printer 10-Mac Atti	10.50
ERGOTRON	
Mac Tilt	69.00
GTCO CORPORATION	
Macintizer	390.00
HABA SYSTEMS	
Haba Window Dialer	25.00
HANZON CORPORATION	
Hanzon Board & Cable	75.00
INNOVATIVE CONCEPTS	
Flip 'n File II/Micro	17.00
Flip 'n File I/Micro	7.00
INNOVATIVE TECHNOLOGIES	
Easel, The	11.50
Pocket	8.50
I/O DESIGN	
Mac Carrying Case-I/O	CALL
Imagewriter Carrying Case-I/O	365.50
KALMAR DESIGNS	
Microcabinet-Double	20.00
Microcabinet	12.00
KENSINGTON	
Swivel/Tilt-Kensington	21.00
Swivel-Kensington	20.00
Disk Case-Kensington	218.50
Dust Cover Printer 15-Kensingt	8.00
Control Center-Kensington	59.00
Printer Stand	15.75
Polarizing Filter	30.50
A/B Box-Kensington	58.50
Surge Suppressor-Kensington	31.50
Disk Drive Cleaning Kit	18.75
Dust Cover-Kensington	8.00
Dust Cover Printer 10-Kensingt	8.00
Mouse Cleaning Kit w/Pocket	14.90
Mouse Pocket	6.00
KETTE GROUP	
Macnifty ABCD Port Switch	31.50
Macnifty Stereo Music System	54.00
Macnifty A/B Switch	21.50
KOALA TECHNOLOGIES	
Mac Vision	167.00
Kat	131.00
KRAFT	
Quick Stick	44.00
MACADAM PUBLISHING	
Windoware Phone Book	29.95
Windoware Calendar	29.95
MAGNUM SOFTWARE	
Mouse Mover	13.75
MEGAHAUS	
Megadesk	58.75
MICRORAIN	
Mac Station	79.00
MICROSOFT	
Mac Enhancer	152.00
MJ ELECTRIC	
Mac Guard	54.50
MPH COMPUTERS	
Mac Be Cool	97.00
NEW IMAGE TECHNOLOGIES	
Magic Digitizer	240.00
OPTIMUM	
Mac Tote	59.50
PRACTICAL COMPUTER APPLICATIONS	
Mac Backup	33.00
SOUTH BAY SYSTEMS	
Mouse Pad	12.00
SUPEREX	
Mac Speak	17.95
T MAKER	
Click On Worksheet	45.00
THUNDERWARE	
Thunderscan	166.00
VIDEO 7	
Mouse Stick	37.50

ACCOUNTING SOFTWARE

Bizmac Inventory	279.00
Bizmac Accounts Receivable	395.00
Bizmac Payroll-Stand Alone	119.00
Bizmac General Ledger	340.00
Bizmac Accounts Payable	275.00
ARRAYS/CONTINENTAL	
Home Accountant	51.00
CHANG LABS	
Rags to Riches GL	97.00
Rags to Riches AP	97.00
Rags to Riches AR	97.00
Rags to Riches Inventory	97.00
DIGITAL ETC.	
Mac Accountant	135.00
INTERMATRIX	
Chequebook	25.50
MONOGRAM	
Dollars & Sense	79.00
Forecast	39.00
PALANTIR	
Accounts Receivable-Palantir	68.50
Accounts Payable-Palantir	68.50
Inventory Control-Palantir	68.50
General Ledger-Palantir	68.50
PEACHTREE	
Accounts Payable-Peachtree	83.00
General Ledger-Peachtree	83.00
Accounts Receivable-Peachtree	83.00
SIERRA ON LINE	
Accountants Choice Each	CALL
Systems Manager	58.00
Mac One Write	133.00
Mac One Write Payroll	133.00
SOFTSYNC	
Personal Accountant	49.00
STATE OF THE ART	
Electric Checkbook	35.00
TIMEWORKS	
I.K. Lassers Money Manager	CALL
UNITED SOFTWARE	
In House Accountant	189.00

BOOKS

MICROSOFT PRESS	
Mac Work Mac Ploy	13.00
Macinations-Microsoft	13.00
Apple Macintosh Book	13.00
Inside Macpaint	13.00
Presentation Graphics	13.00
Lotus Guide to Jazz	15.00
Printed Word The	12.75
Macintosh Software Book of	17.00
Multiplan Book-Microsoft	12.00
Inside MacProject	13.00
Macwork Multiplan	13.00

BUSINESS SOFTWARE

ADVANCED LOGIC SYSTEMS	
Mighty Mac	35.00
AESIS	
Zap! Invoice	53.00
Housekeeper, The	31.50
ALDUS	
Page Maker	CALL
ALLEGRO SOFTWARE	
Multiplan Templates-Busns Anal	28.50
Multiplan Templates-Pers Finan	28.50
Softstart	28.50
APPLE COMPUTER	
Mac Project	CALL
APPLIED LOGIC SYSTEMS	
Mac Math Pac	165.00
APROPOS	
Financial Planning	44.50
Investment Planning	44.50
Tax Planner	33.00
ARSCI	
Softforms	24.00
Macig File	57.00
ASSIMILATION PROCESS	
Business Essentials	CALL
Mac Spell Right	CALL
Right Word The	CALL
BLYTH SOFTWARE	
Omnis III	243.00
BOSTON SOFTWARE	
Mac Publisher	69.00
BRAINPOWER	
Stat View	97.00
CHANG LABS	
Three Pack	245.00
BRAINSTORM	
OVERTURE	CALL
COMPUTER: APPLICATION INC.	
11 in A Mac	51.50
CRIGHTON SOFTWARE	
Mac Office	23.00
Mac Spell Plus	51.00
Mac Home	23.00
CRICKET SOFTWARE	
Cricket Graph	133.00
CRYSTAL CANYON	
Mac Librarian	23.50
DATAFOOD	
Drawforms	29.50
Mac Forms	41.50
DATALOGICA	
dMac III	CALL
DATAPACK SOFTWARE	
Executive Office	CALL
My Office	94.50
DOW JONES SOFTWARE	
Spreadsheet Link	55.00
Straight Talk	44.50
Dow Jones Membership Kit	17.00
Market Manager Plus	108.50
DREAMS OF THE PHOENIX	
Quick and Dirty Utilities I	26.50
Quick and Dirty Utilities II	26.50
ELECTRONIC ARTS	
Financial Cookbook	31.75
EMERGING TECHNOLOGIES	
Macaffix	78.00
ENTERSET	
Quick Word	31.00
FORETHOUGHT	
Factfinder	83.50
Filemaker	104.50
FOTNUM SOFTWARE	
Mac Nest	30.50
HABA SYSTEMS	
Quartet	110.00
Haba Wills	31.50
Haba Business Forms	31.50
Haba Business Letters	31.50
HARRIS TECHNICAL SYSTEMS	
Profit Projection/Breakeven An	46.00
HAYDEN SOFTWARE	
I Know Its Here Somewhere	34.00
Ensemble	139.00
Hayden Speller	44.00
Hayden Chart	58.50
HAYES MICROCOMPUTING	
Please	122.00
HEYDEN & SON	
Stat Works	78.00
HOWARD SOFT	
Howard Tax Preparer	CALL
HUMAN EDGE SOFTWARE	
Mind Prober	25.00
LAZER SOFTWARE	
Lazerbase	58.50
LAYERED	
Front Desk	75.00
LIGHTYEAR INC.	
Lightyear	CALL
LIVING VIDEOTEXT	
Think Tank 128K	69.00
Think Tank 512K	95.00
LOTUS DEVELOPMENT	
Jazz	338.00
MACNIFTY	
Studio Session	67.75
MAINSTAY	
Turbo Download	24.75
MAIN STREET SOFTWARE	
Main Street Writer	51.00
Main Street Filer	51.00
MEACOM	
Mac Plus II	68.50
MEGAHAUS	
Megafiler	90.00
Megamerge	60.00
Megaform	145.00
MEGAMAX, INC	
Megamax C Compiler	173.50
MESA GRAPHICS	
Tekalike	177.00
MICRO PLANNING SOFTWARE	
Micro Planner	195.00
Micro Planner Plus	295.00
MICROSOFT	
Excel	222.50
Chart	70.75
Multiplan	105.00
File	108.00
Typographer	108.00
Word	108.00
NEW CANNAN MICRO	
Mac Disk Catalog	28.00
Mac Disk Catalog II 3.8.00	
NOLO LEGAL SOFTWARE	
Will Writer	24.75
ODESTA	
Helix	210.00
ODS INC	
Consultant	108.50
Sales Consultant	CALL
PALADIN	
Crunch	145.00
Supercrunch	187.00
PALANTIR	
In Touch	77.75
PROVUE DEVELOPMENT	
Overview	146.00
PROTEKT-IT SOFTWAROE	
Procopy / Proedit	28.50
REAL DATA	
Residential Real Estate	58.50
Financial Analysts	58.50
Tax Shelter Syndication Analyst	167.00
Real Estate Investment Analysi	87.00
Mortgage Qualifier	117.00
Property Management I	173.00
On Schedule	117.00
Commercial Industrial App	60.00
SATORI SOFTWARE	
Bulk Mailer	78.00
SIMON & SCHUSTER	
Construction Estimator	41.00
SMITH MICRO	
Market Link	41.50
Stock Portfolio System	105.00
SOFT DESIGN	
Timebase	86.00

Connecticut Orders Call (203) 375-3860 IN CANADA 1-800-843-0074

ASTERN

ANY COMPARABLE ADVERTISED PRICE BY $1

SOFTSTYLE
Decision Map 73.00
SOFTECH MICROSYSTEMS
Mail Manager 68.50
SOFTVIEW
Macintax 65 ..... 48.50
SOFTWARE PUBLISHING
PFS File/Report Combo 99.00
PFS Report 69.00
PFS File 69.00
SOUTHEASTERN SOFTWARE
Mac ..... Transfer
STATSOFT
Data Fast 38.50
STONEWARE
DB Master Mac 102.00
SUPEREX
Mac Notes 53.00
TELOS
Filevision 94.00
Business Filevision 195.00
WARNER
Desk Organizer 54.00

COMMUNICATIONS SOFTWARE

APPLE COMPUTER
Mac Terminal ..... CALL
COMPURSERVE
Compuserve Starter Kit 18.00
DATAVIZ
Mac Link ..... CALL
Mac Link W/Cable 86.75
DILITHIUM PRESS
PC to Mac & Back 75.75
DOW JONES SOFTWARE
Straight Talk 43.00
DREAMS OF THE PHOENIX
Mouse Exchange BBS 26.75
Mouse Exchange Terminal 26.75
HAYES MICROCOMPUTING
Smartcom II 85.00
MAINSTAY
Telescape 77.50
SOFTWARE MASTERS
In Touch 96.00
SOURCE ON LINE
Source On-Line Info Network 25.00
VIDEX
Mail Center For Six 268.00
Mail Center For Two 168.00
AEGIS
Mac Mail Apple Talk ..... CALL
Mac Mail Telecom ..... CALL
HABA SYSTEMS
Haba Dialer ..... CALL
Haba Dialer/Window Dialer ..... CALL
Haba Com ..... CALL
INTERMATRIX
Phone Link ..... CALL
SOUTHEASTERN SOFTWARE
Mac Transfer ..... CALL

DISK DRIVERS

APPLE COMPUTER
Macintosh Hard Disk 20MB ..... CALL
Mac 512K ..... CALL
Mac +/1 Meg ..... CALL
Mac External 800K Drive-Apple ..... CALL
CORVUS
5.5 MB Mac Omnidrive 979.00
Omni Talk 175.00
45.1 MB Mac Omnidrive 3399.00
11.1 MB Mac Omnidrive 1379.00
21.6 MB Mac Omnidrive 1959.00
HABA SYSTEMS
Haba Disk 800KB 255.00
IOMEGA
Iomega Drives for Mac ..... CALL
5 MB Cartridge-Iomega 38.00
Head Cleaning Kit-Bernoulli 56.75
Bernoulli Box 5MG 1290.00

DESK ACCESSORY PROGRAMS

AFFINITY MICROSYSTEMS
Tempo 78.00
BATTERY INCLUDED
BATTERY PACK 26.50
BORLAND
Sidekick 42.50
Sidekick With Phone Link 55.50
DREAMS OF THE PHOENIX
Day Keeper Calender 26.50
Twelve-C Financial Desktop 26.50
DUBL-CLICK SOFTWARE
Calculator Const. Set 58.50
DREAMS OF THE PHOENIX
Twelve C 26.75
ELECTRONIC ARTS
Custom Calc Set 33.50
ENTERSET
Quick Set 26.75
Quick Paint 26.75
MAINSTAY
Type Now 25.75
HARVARD ASSOCIATES
Desk Toppers 28.50
SILICON BEACH SOFTWARE
Accessory Pack 1 ..... 20.75
VIDEX
Mac Calendar 48.50

BLANK DISKS

Basf 3 1/2 SS/DD 11.00
Basf 3 1/2 DS/DD 16.00
Verbatim 3 1/2 SS/DD 21.50
Elephant 3 1/2 SS/DD 22.00
Fuji 3 1/2 SS/DD 20.00
Maxell 3 1/2 SS/DD 21.50
Memorex 3 1/2 SS/DD 22.50
Sony 3 1/2 SS/DD 19.00
Sony 3 1/2 DS/DD 32.00

EDUCATIONAL SOFTWARE

ADDISON WESLEY
Smart Eyes 35.00
ATI
How To Use Multiplan 28.00
Teach Yourself Multiplan 28.50
Mac Coach 38.50
Teach Yourself Excel 44.50
Teach Yourself Jazz 38.50
BRAINPOWER
Powermath 51.00
Chipwits 25.75
Thinkfast 20.50
CAMDE
Nutricalc 48.50
DAVIDSON AND ASSOCIATES
Spell It 26.75
World Attack 26.75
Math Blaster 26.75
Speed Reader II 36.75
FIRST BYTE
Smooth Talker 48.00
Kidtalk 39.00
Speller Bee 41.50
FORETHOUGHT
TYPING INTRIGUE 28.00
FORTNUM SOFTWARE
Mac Chemistry 97.50
GREATWAVE SOFTWARE
Concertware + ... 38.00
HARVARD ASSOCIATES
Mac Manager 28.00
HAYDEN SOFTWARE
Music Works 44.00
Turbo Turtle 34.00
HIPPOPOTAMUS SOFTWARE
Hippo Computer Almanac 19.75
MARK OF THE UNICORN
Professional Composer 244.00
MICROSOFT
Entrepreneur 28.50
Learning Multiplan & Chart 36.00
PALANTIR
Mac Type 24.00
Word Play 25.75
Math Flash 25.75
QUEUE INTELLECTUAL SOFTWARE
Starting A New Business 43.00
RUBICON PUBLISHING
Song Painter 31.50
Deja vu-Rubicon 21.75
SCARBOROUGH
Mastertype 24.75
Run For The Money ..... CALL
Make Millions 28.50
SIMON & SCHUSTER
Mac Art Department 23.00
Typing Tutor III 30.50
Paper Airplane Construction SE 23.00
SPECTRUM HOLOBYTE
Tellstar Astronomy Program 39.00
SPRINGBOARD
Art A La Mac People + Places 21.25
Art A La Mac Variety Pack 21.25
TERRAPIN
Mac Logo 64.50
THINK EDUCATIONAL
Mac Edge II 27.75
Mind Over Mac 27.75
Mac Edge + ... 27.75
TIMEWORKS
Evelyn Wood Dynamic Reader 40.00

ENTERTAINMENT

ACTIVISION
Alter Ego 33.50
Mindshadow 25.00
Borrowed Time 25.00
Championship Star Baseball 20.75
AEGIS
Pyramid Of Peril 21.00
Mac Challenger 21.00
Red Flag 21.00
ANN ARBOR SOFTWARE
Grid Wars 27.00
Lunar Explorer 35.00
ARTSCI
Hearts 17.50
AXLON
Mac Match 29.00
BLUE CHIP SOFTWARE
Squire 28.00
Baron 28.00
Tycoon 28.00
Millionaire 28.00
BRAINPOWER
Torpedo Run 27.00
BRODERBUND
Cyborg 23.00
Ancient Art Of War 26.00
Lode Runner 23.00
CBS SOFTWARE
Murder By The Dozen 24.00
CHALLANGER SOFTWARE
Legacy ..... CALL
CREIGHTON DEVELOPMENT
Mac Command 17.75
ELECTRONIC ARTS
Pinball Construction Set 26.75
Deluxe Music Construction Set 31.75
One On One 26.75
Skyfox ..... CALL
EPYX
Rogue 17.50
Temple of Apshai Trilogy 22.50
Winter Games 22.50
EXPERT SYSTEMS
Mac Gammon ..... CALL
GENERAL COMPUTER COMPANY
Ground Zero 23.50
HAYDEN SOFTWARE
Word Challenge II 23.00
Sargon III 28.00
Perplex 23.00
Masterpieces 23.00
Holy Grail 28.00
Computer Novel Construction SE 28.00
HENDERSON ASSOCIATES
Real Poker 20.00
HIPPOPOTAMUS SOFTWARE
Hippo Jokes & Quotes 19.75
INFOCOM
A Mind Forever Voyaging 25.75
Cutthroats 22.75
Deadline 28.00
Enchanter 22.75
Hitchhikers Guide To The Galax. 22.75
Infidel 25.75
Planetfall 22.75
Seastalker 22.75
Sorcerer 25.75
Spellbreaker 28.75
Starcross 28.00
Suspect 25.75
Suspended 25.75
Wishbringer 22.75
Witness 22.75
Zork I 22.75
Zork II 25.75
Zork III 25.75
KASTEL TECHNOLOGY
Trivia Savant 22.00
MAGNUM SOFTWARE
Gypsy 22.75
MARK OF THE UNICORN
Mouse Stompede 22.00
MILES COMPUTING
Mac Wars 24.75
Mac Attack 26.75
Fusillade 19.50
Overlords ..... CALL
Harrier Strike Mission 26.75
MINDSCAPE
James Bond A View To A Kill ..... CALL
Rambo 22.50
Balance of Power 27.75
Bratacus ..... CALL
Ractor 32.50
Deja Vu-Mindscape 22.50
Stephen Kings The Mist 20.75
MIRAGE CONCEPTS
Trivia 11.50
NEWSOFT
New Gammon 21.00
ORIGIN SYSTEMS
Ultima III 36.00
PBI SOFTWARE
Fokker Triplane 33.50
Strategic Conquest 28.50
Feathers & Space 20.75
PENGUIN
Crimson Crown 22.50
Graphics Magician 44.50
Pensate 21.50
Transylvania 21.50
Xyphus 21.50
Quest 21.50
PRACTICAL COMPUTER APPLICATIONS
Mac Golf 33.00
PROFESSIONAL SOFTWARE
Trivia Fever Volume II 13.95
Super Sports Trivia 18.00
Trivia Fever 20.50
PSION
Psion Chess 30.50
PRYORITY SOFTWARE
Forbidden Quest 22.50
Gateway 24.00
SIERRA ON LINE
Ultima II 34.00
Frogger 21.50
Championship Boxing 21.50
SILICON BEACH SOFTWARE
Enchanted Scepters 20.50
Airborne 19.00
SIR TECH
Wizardry I 33.00
SOFT LIFE
Mac Slots 25.00
SPECTRUM HOLOBYTE
Gato 24.75
Orbiter 25.50
STRATEGIC SIMULATIONS
Gemstone Warrior 20.00
SYNAPSE
Brimstone 26.00
Essex 26.00
Mindwheel 26.00
TELARIM
Dragon World 25.50
Amazon 25.50
Fahrenheit 451 ..... 25.50
Rendezvous With Rama 25.50
UNICORN SOFTWARE
Futuria 23.75
Utopia 23.75
VIDEX
Mac Checkers & Reversi 27.50
Mac Vegas 33.00
Funpak 21.00
Mac Gammon & Cribbage 27.50

GRAPHICS SOFTWARE

ALTSYS
Fontographer ..... CALL
Fontastic 23.50
ANN ARBOR SOFTWARE
Advanced Animation Toolkit I ..... CALL
Animation Toolkit II ..... CALL
Animation Toolkit I 30.00
In Motion ..... CALL
Full Paint 67.50
APPLE COMPUTER
Mac Draw ..... CALL
AXLON
Card Shoppe 31.00
Art Portfolio I 33.00
Art Portfolio II ..... CALL
BRODERBUND
Printshop ..... CALL
CASSADY COMPANY
Fluent Fonts 28.00
Fluent Laser Fonts ..... CALL
CENTURY SOFTWARE
Laser Font Potomac ..... CALL
Laser Font Willamette ..... CALL
Ultrafonts ..... CALL
Ultrafonts/Technical & Business ..... CALL
Technical & Business Fonts ..... CALL
Diablo Valley Design ..... CALL
Mac Grid 26.00
CHALLANGER SOFTWARE
Mac 3D 112.50
CRICKET SOFTWARE
Cricket Graph 136.00
DIVERSION INC.
Jumbo Color Pens 10.75
Underware Pens 9.95
Underware Ribbon 8.75
DRUID
Classic Fonts ..... CALL
Graphic Letters ..... CALL
ENABLING TECHNOLOGIES
ESAY 3D
ENTERSET
Quick Paint 28.75
HAYDEN SOFTWARE
Davinci Commercial Interiors 113.00
Davinci Interiors 26.50
Davinci Houses 26.50
Video Works 54.00
Davinci Building Blocks 44.50
Davinci Landscapes 26.50
Home Design 45.50
Art Grabber W/BODY SHOP 28.50
INNOVATIVE DATA DESIGN
Mac Draft 135.00
Paste Ease 34.75
KENSINGTON
Professional Type Fonts-Headln 39.00
Graphic Accents 28.00
Professional Type Fonts-Text 28.00
MAGNUM SOFTWARE
Slide Show Magician 31.00
MC Pic Volume 1 ..... 26.00
MC Pic Volume 2 ..... 26.00
MANHATTEN GRAPHICS
Read Set Go ..... 58.00.
MESA GRAPHICS
Plot It 66.00
MICROSPOT
Mac Plot ..... CALL
MILES COMPUTING
Mac The Knife Volume I 20.00
Mac The Knife Volume II 24.00
Mac The Knife Volume III 26.75
SUMMAGRAPHICS
Mac Tablet 9 X 6 ..... 240.00
Mac Tablet 12 X 12 ..... 328.00
SUNCOM INC
Macfont 1 ..... 17.00
T MAKER
Click Art Publications 27.00
Click Art Effects 27.00
Click Art Letters 27.00
Click Art Personal Graphics 27.00

LANGUAGES

APPLE COMPUTER
Mac Pascal ..... CALL
Macintosh 68000 Development ..... CALL
CONSULAIR
Mac C W/TOOL KIT ..... CALL
CREATIVE SOLUTIONS
Mac Forth Level I 76.00
EXPERTELLIGENCE
Exper Lisp 235.00
Exper OPS 5 ..... 163.00
Exper Logo 70.00
HIPPOPOTAMUS
Hippo-C Upgrade Kit 133.00
Hippo C Level I 74.50
Hippo C Level II 214.00
KRIYA SYSTEMS INC
Neon 125.00
MAINSTAY
Macasm 74.50
MANX
Aztec C68K-P 160.00
Aztec C68K-C 403.00
Aztec C68K-D 241.00
Aztec C64K-C 403.00
MICRO ANALYST
Mac Zap 38.00
MICROMOTION
Masterforth 88.00
MICROSOFT
Basic-Microsoft 84.00
Fortran Compiler-Microsoft 168.00
Logo-Microsoft 73.00
SOFTWORKS LIMITED
Softworks C Compiler 234.00

MODEMS

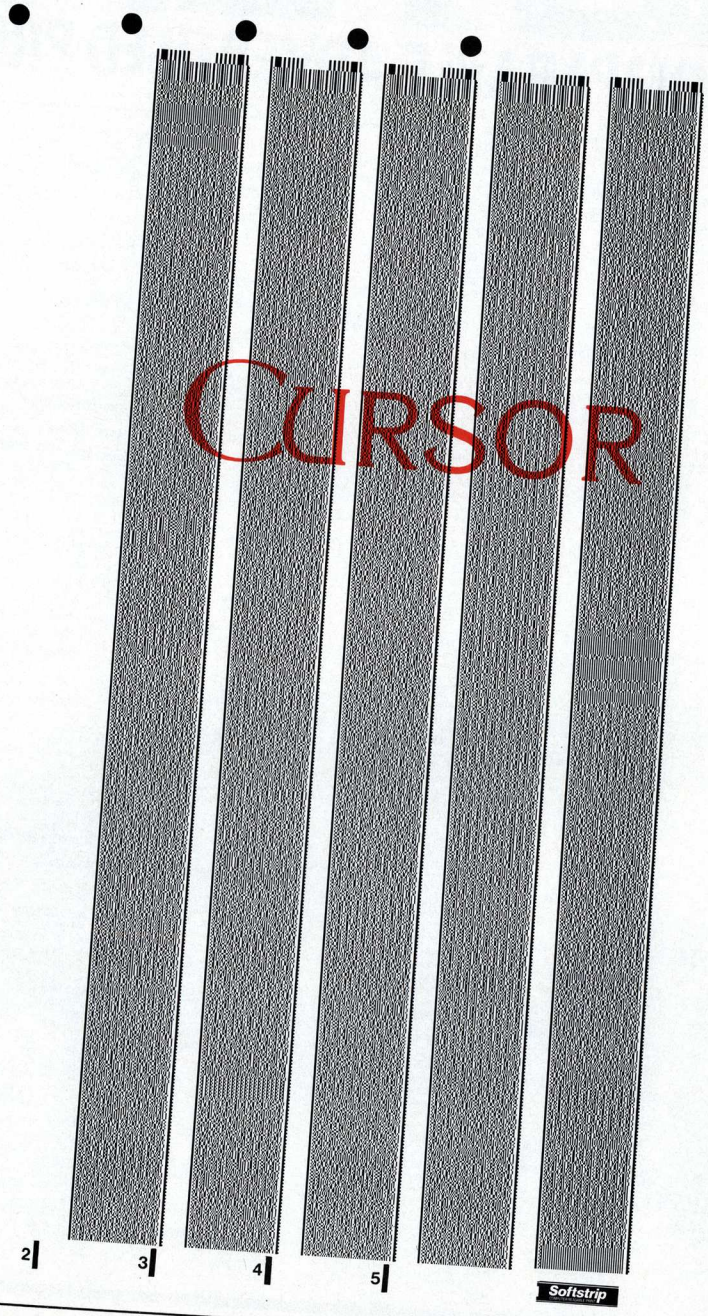
APPLE COMPUTER
Apple Personal Modem 300/1200 ... CALL
COMPUCABLE
Cable Mac To Hayes 15.50
HAYES MICROCOMPUTING
Interbridge ..... CALL
Smartmodem 1200 ..... 363.00
Smartmodem 2400 ..... 575.00
Smartmodem 300 ..... 128.00
Transet 268.00
Transet 1000 512K 265.00
Transet / Mac Acc. Kit 27.00
KENSINGTON
Portable Modem 300 Baud 85.00
MICROCOM
Mac Modem 2400 W/SOFTWARE 553.00
Mac Modem 1200 W/SOFTWARE 385.00
NOVATION
CAT COMM COMMUNICATION SYSTEM 274.00
NOVATION 2400 BAUD ..... CALL
PRENTICE
Popcom X 100 ..... 253.00
PROMETHEUS
Promodem 1200 W/Mac Software 318.00
US ROBOTICS
Courier 2400 ..... 380.00
Password 1200 ..... 195.00

PRINTERS

APPLE COMPUTER
Laserwriter ..... CALL
Imagewriter II ..... CALL
Imagewriter 15 ..... CALL
Imagewriter II 32K Buffer 77.00
Imagewriter II Cut Sheet Feed 160.00
BROTHER
HR 35 ..... CALL
HR 25 ..... CALL
HR 15 XL 335.00
EPSON
AP-80 ..... CALL
DX 10 ..... CALL
LX 80 ..... 205.00
LX 90 ..... CALL
DX 20 ..... CALL
LQ 800 ..... CALL
LQ 1000 ..... CALL
LQ 1500 ..... CALL
SQ 2000 ..... CALL
JUKI
6100S 375.00
5510S 449.00
6300S 639.00
NEC
NEC 3510 ..... 990.00
NEC 8810 ..... 1270.00
ELF 360 ..... 380.00
OKIDATA
1935 Mac/Lisa ..... CALL
192S Mac/Lisa ..... CALL
TOSHIBA
351 ..... 1020.00
1340 ..... 390.00
351 Tractor 150.00

***Top rated in a leading consumer magazine

Cauzin Strips for Cursor Editor



The Well-Connected Mac

Four powerful Macintosh telecommunications programs are compared in this month's review board.

Reviewed by Steven Meuse, RFD #1, North Rd., Candia, NH 03034

With a modem and communications software, you can plug into a network of national databases, electronic mail services, and local bulletin board systems. You can also meet new friends, find out about new software and more. In this review, I'll compare four telecommunications packages for the Macintosh: Smartcom II from Hayes Microcomputer Products, MicroPhone from Software Ventures, inTouch from Palantir Software, and Red Ryder from The FreeSoft Company.

THE PRODUCTS

These four products are all designed to do the same thing: Enable a Macintosh to call a remote computer, exchange information and hang up. Simple as that sounds, it is a complex process, and each product approaches it differently.

All four packages require a 128K Macintosh, a modem, and a cable to connect the computer and modem. All support the standard Hayes "AT" command set, but to varying degrees. I tested them with a U.S. Robotics Password, a "Hayes compatible" modem and a 512K Mac. In addition to supporting the Hayes standard, Red Ryder, MicroPhone and inTouch support non-Hayes compatible modems, through the use of user-specified modem commands. All of the software companies recommend the use of an external drive and printer, though none require it.

Editor's note: As this review went to press, we received word that enhanced versions of both Smartcom II and Red Ryder are being released. According to a Hayes representative, the new version of Smartcom II (version 2.2A) will fully support the Mac Plus and HFS, and will have the following new features: a receive file option for auto naming, option key driven autopilot sequences, autostartup sequences, and selectable startup documents. Scott Watson, the author of Red Ryder, says that version 8.0 of Red Ryder is in the process of being released and version 9.0 is on the way. Some of the new features he promises for version 8.0 are: Run Length Encoded (RLE) graphics, support for CompuServe's 'B' protocol, improved Kermit protocol handling, a cleaner user interface, more macro keys, and mouse-based VT100 and VT52 emulation.

SMARTCOM II, VERSION 2.1D

Hayes Microcomputer Products, publishers of Smartcom II, are the originators of the Hayes standard for modem commands. Smartcom II takes full advantage of Hayes and 100% Hayes compatible modems, while staying surprisingly easy to use.

Features

The basic screen layout is simple and straightforward. The stationary, unsizeable window has a vertical scroll bar, and underneath are seven large icons for invoking commonly used functions: dialing/hanging up, printing, saving to disk, sending and receiving files, interactive graphics creation, and an on-line help facility.

Like the other packages, Smartcom II saves incoming text into a buffer (memory space) which can be reviewed using the scroll bar. Smartcom II can continue to receive and store incoming characters even while you are reviewing the buffer. The actual size of the buffer is not given in the manual, but seemed of comparable size to the other packages used. A 128K Macintosh will have a much smaller buffer.

Smartcom II can save incoming text or files in several ways. For text-only documents, the program can save the data to disk as it comes in, or from a selected area of the buffer. The text may be saved as a separate file or appended to the end of an existing file. For file transfers (text or binary information), "error-free protocols" verify that the information received is correct. Smartcom II offers MacBinary Xmodem (to transfer entire Macintosh files, icons and all), MacTerminal Xmodem (for transfers to Apple's MacTerminal 1.1), Hayes Verification (for transfers to another Macintosh running Smartcom II), and standard Xmodem (for most other types of remote computers). Smartcom II will also emulate two terminals, the VT102 and VT52, in 80-column mode only. Font size is selectable between Monaco 9 point and 12 point.

Smartcom II has a provision for turning off the modem while retaining the phone connection. If both parties have this capability, they may temporarily stop their modems from squawking, talk to each other, then resume the modem connection.

A feature called Autopilot allows you to preprogram a sequence of events for Smartcom II to carry out automatically, such as a log-on sequence. Rather than dialing the phone, then waiting for the remote computer to respond and ask for identification and a password, you can program Smartcom II to do it for you. Included on the Smartcom II disk are preprogrammed Autopilot sequences for CompuServe, The Source, MCI Mail and others, which only require you to insert your own local access phone numbers, account numbers and passwords. Sensitive information such as passwords can be protected so that other users of a program disk cannot access them.

Finally, an unusual feature: Interactive drawing. When Smartcom II and a 512K Macintosh are connected to another 512K Macintosh running Smartcom II, two users can take turns creating graphics the size of the MacPaint window. A chessboard, chess pieces, and checkers are provided in the Scrapbook for a game of telechess.

Performance

Smartcom II adheres to the standard Macintosh user interface guidelines fairly closely, with only a few embellishments.

Of the four programs, Smartcom II was the only one that wouldn't work properly with the test modem. After much experimentation, I fooled it into thinking that the modem was another computer. I put Smartcom II into Direct Connect mode, and had Autopilot send the dial commands directly to the modem. However, doing so disabled the ability to automatically dial phone numbers in the usual way. The Direct Connect fix was hard to find. Hayes' technical support people said that my problem was unsolvable; after fixing it I found a reference to the solution buried in the on-line help.

Smartcom II performs best when connected to a Hayes Smartmodem. A Hayes or 100% compatible modem will squeeze a few nice touches out of Smartcom II, such as adjustable speaker volume.

The Autopilot feature is limited compared to similar features in the other packages I reviewed, but it works well. Advanced operations may be difficult or impossible using Autopilot's simple commands.

The interactive drawing feature was fun, but of marginal use. After a few moves of a game of chess with a friend, the novelty wore off.

Error Handling

One area where it is easy to make mistakes is setting the communication parameters. Smartcom II's error handling is very good here, and it will not allow a user to enter a combination of parameters that are impossible.

Ease of Use

Of the packages I reviewed, Smartcom II is the easiest to use, beating out MicroPhone by a slim margin. The program and documentation are very simply and clearly laid out. With the exception of actually communicating with a remote computer, just about everything in this program can be done with the mouse.

The only slightly confusing aspect of Smartcom II is the use of the seven function icons. Some of them behave differently when they are double-clicked instead of just clicked, and this takes a bit of getting used to.

The Autopilot feature is also easy to use. It is simple enough that many users will be able to write functional Autopilot sequences with little reference to the manual.

Documentation

The manual is short, simple and inviting. Pictures of the Macintosh screen during program execution reinforce the text effectively. The Autopilot explanation is well written, and includes a few simple example sequences. Neither personable nor witty, this manual is simply unintimidating and very well done.

days. After 90 days and up to two years after purchase, a replacement disk can be purchased by registered users for $25. The program isn't protected and backups are easy to make, so this should present few problems.

Smartcom II lacks advanced features like automatic Autopilot sequence generation or a built-in text editor, and at a list price of $149, it is not inexpensive. Also, this program is not recommended for those who have marginally Hayes-compatible modems.

MICROPHONE, VERSION 1.0

Microphone is published by Software Ventures and written by Dennis Brothers. Dennis is practically the granddaddy of Mac telecommunications, having written the first publicly available terminal program for the Macintosh, MacTEP. One would expect great things from him, and he does not disappoint.

Features

MicroPhone's initial display is a simple window with horizontal and vertical scroll bars, several menus and a Pause button. The screen layout is clean and easy on the eyes.

MicroPhone saves the text that appears in the window and scrolls off into a screen buffer. This allows you to scroll back through text to review it, even while new characters are coming in or being typed.

MicroPhone will also capture incoming text directly to a disk file. You can select text in the screen buffer and print the selection or save it to disk. Several file transfer protocols are supported, including Xmodem; MacBinary; a newer, faster version of Xmodem called 1K Xmodem; MacTerminal 1.1 Xmodem; and Ymodem, an extension to Xmodem with the capability to send groups of files in a single transfer. Two popular computer terminals can be emulated by MicroPhone — the VT100 and VT52 — in 80- and 132-column modes. Font size is selectable between Monaco 9 and 12 point.

MicroPhone includes a desk accessory called Micro-

Editor. This simple word processing program can be used to prepare text files before transmission, or to clean up files that have been received. It is possible to reduce the size of the MicroPhone and MicroEditor windows, and move back and forth between them by simply pointing and clicking.

A feature which MicroPhone's publisher calls scripting, lets you program MicroPhone to do just about anything by itself, except perhaps answer your mail. The scripting language is a set of commands that can direct MicroPhone to wait until a specified time, dial and connect to another computer, wait for certain pieces of text to come across the phone lines, send responses when they do, save information to a disk, sign off and hang up, and create on-screen command buttons. MicroPhone can even automatically generate scripts based on what the user types and what is received from the remote computer. Included on the program disk are preprogrammed script files to access Compuserve, The Source, Delphi, Dow Jones and MCI Mail.

A turnkey feature allows you to specify which service will be dialed, or which script will be executed, if any, on startup. This enables you to leave a disk with a friend or coworker, and ask them to just put the disk in and turn on the Macintosh. MicroPhone and the script will take it from there.

Apple's Switcher program is included on the program disk for 512K Mac users, as well as a preset file for loading MacWrite and MicroPhone simultaneously. An appendix in the manual covers the use of the Switcher program. In addition, MicroPhone is compatible with the Macintosh Plus and Apple's new Hierarchical Filing System (HFS) for use with HD20 and the new 800K disk drives. A Compuserve IntroPak which entitles the buyer to $15 worth of free access time, is also included in the package.

Performance

MicroPhone adheres rather well to the Macintosh user interface. The only minor inconsistency I noticed was that there were menu items that were actually subheadings, and as such were never active.

The screen buffer is a useful feature, with one drawback. There is a noticeable slowdown in the text scrolling speed as the buffer begins to fill up. A manual override of this feature would be a welcome addition. The exact number of lines that can be stored is not documented, but I didn't exceed it on a 512K Macintosh.

The MicroEditor desk accessory was more than adequate for the kinds of editing I needed for sending electronic mail and bulletin board messages. I especially liked being able to split the screen between an editor window and a communications window.

The scripting feature is remarkable, not only for the wide range of capabilities it brings to the Macintosh and the extreme ease with which these scripts can be entered and edited, but also because MicroPhone can generate scripts on the fly by simply observing what the user and the remote computer are doing. This last feature is called Watch Me, and it is a state-of-the-art capability in telecommunications programs.

Error Handling

MicroPhone is designed to prevent you from making mistakes. No matter how hard I tried to foul it up, the program prevented me from losing my data, or otherwise doing something I shouldn't. When error messages did appear, they were simple and clear.

Ease of Use

In typical user style, I tried to use all four programs without first consulting the manual. Of the four, MicroPhone was the most intuitive to use. The menu layouts and functions are clear enough for an intermediate user to easily access most functions. You'll need the manual for such advanced functions as customizing scripts.

Script creation is painless. Watch Me faithfully recorded everything I did, right down to the pause I usually take in the middle of my account number. The scripts it creates might need some editing for appearance's sake, but they always worked without any fine tuning.

The built-in editor is simplicity itself. With the exception of entering short bits of text specific to a particular remote computer (passwords and so on), you can create and edit a script without letting go of the mouse. A syntax checker that is invoked by a buttonpress ensures that the new script follows all the rules.

Documentation

Perhaps the most encouraging thing about MicroPhone is the warranty. If you decide within 30 days that you don't like MicroPhone, you can send it back for a full refund, no questions asked. Some might call this lunacy in these days of rampant software privacy. I call it a breath of fresh air.

A very nice feature of the manual is the "I Don't Need To Read the Manual" section. It presents in a nutshell the information an advanced user needs to get on with using MicroPhone. For the less experienced, eight chapters of tutorials explain everything from how to hook up a modem to how to start creating scripts for automated MicroPhone operation.

Also included are sections on how to make your own cable, a table of contents and reasonably complete index, and a three-page list of bulletin board services. There is a good explanation of the available computer services, and a very complete, menu-by-menu guide to the program. Bravo!

Overall Rating

MicroPhone is an exemplary telecommunications package. It is simple yet powerful, and reasonably priced at $74.95. The 30-day, no questions asked, money back guarantee shows Software Ventures' confidence in their product. MicroPhone represents a carefully planned trade-off between power and simplicity, and the result is a package that many can use and enjoy.

INTOUCH, VERSION 2.05

InTouch is published by Palantir Software as part of the Palantir Office Series. While it is not the easiest package

to use, it does have some noteworthy special features, and some very nice touches.

Features

InTouch's initial display is an unusual window. The upper-right corner shows a time-of-day clock, which turns into an elapsed time clock when a connection is made to a remote computer. The window also holds a vertical scroll bar and a small horizontal scroll bar in the lower-right corner. The window itself is not resizeable — it takes up the whole screen and stays there.

There are eight buttons along the bottom of the screen for eight user-definable function keys, and four smaller buttons to choose among four sets of eight function keys. Each of these 32 functions represents a macro, a string of text up to 80 characters long that is sent over the phone line when the appropriate function key is selected. The function keys can be named by the user for easy identification.

Text that scrolls off the top of the screen is temporarily saved in a screen buffer, which holds 400 lines of text on a 512K Macintosh, and 50 lines on a 128K Mac. InTouch lets you select a section of text in the buffer by dragging across it, and save it to disk as a separate file or append it to another file. This appending feature is very handy if you receive lots of messages or electronic mail, and hate filling up disks with files of individual messages. Just define a file for each correspondent and record their messages directly to the proper file. You can also route all incoming text to its own file, or the end of an existing file.

For verified transfers of information, inTouch offers Xmodem, MacBinary Xmodem, inTouch protocol (which is compatible with MacTerminal 1.1 Xmodem), and Crosstalk protocol, for communicating with non-Macintosh computers running the popular Crosstalk terminal package.

One of the most remarkable features of inTouch is the number of terminals it can emulate. They include ADDS ViewPoint/60, Beehive DM5A, IBM 3101, Televideo 925, VT-100, VT-52 and Vidtex. Both 80- and 132-column modes are supported. An appendix to the manual lists nearly two more pages of equivalencies to these seven emulation choices.

InTouch includes a coresident text editor. It isn't a desk accessory; instead it's a type of subprogram accessible from the Memos menu. Once invoked, it remains in the front of the communications window until it is closed, and can neither be moved nor resized.

Communications Control Language (CCL) is Palantir's answer to automated telecommunications. CCL is accessible from its own menu, and CCL programs are created and edited in the Memos editor. A CCL file named AUTOCCL, if present, will always be executed on startup, providing for convenient turnkey operation.

Unfortunately, there is no way at present to automatically generate CCL programs. On the plus side, the program disk has prewritten CCL demonstration programs, one of which downloads and uploads mail from many of the popular telecommunications services.

InTouch supports users with hard drives attached to their modem ports. It reconfigures your program so that it never initializes the modem port, which would damage data if a hard drive were connected.

Performance

The authors of inTouch followed the Macintosh user interface guidelines closely. The only design decisions I don't like are the inability to access the communications window and the editor simultaneously, and the fixed sizes of those two windows.

As with MicroPhone, the text capture buffer slows program performance when the buffer begins to fill. An option to disable the text buffer or to limit it in size would be most welcome.

The powerful CCL feature is presented in a rather technical light, and is not recommended for beginners. CCL programs must be typed in from scratch, though a syntax checker is automatically invoked each time a CCL program is saved to disk.

While I didn't check all seven terminal emulations, I found that the Vidtex emulation was a pleasant surprise. This is CompuServe's graphic terminal standard, and can only be used on that service. CompuServe's Vidtex demo is very impressive, and a nice feature for those who spend a lot of time on CompuServe.

Version 2.05 of inTouch has a few compatibility problems with HFS. When downloading documents, it consistently created the new icon outside the inTouch disk window, at the upper-left corner of the Macintosh screen. This will certainly be fixed in future releases (if it hasn't been already), but in this version it's a nuisance.

Error Handling

There are two ways to hang up the phone line with a Hayes-compatible modem: Have the program send the hang-up code to the modem, or do it yourself. The code is simple and hanging up from the keyboard saves you the trouble of grabbing the mouse and dragging down menus. Unfortunately, if you try to dial another number after doing this, inTouch refuses on the basis that you haven't hung up the phone yet. There may be no way around this, but I'd like to see Palantir give it a try.

Ease of Use

With the exception of writing CCL programs, I found inTouch easy to use, requiring little time with the manual. The menus are well thought out and easy to navigate. Once you've defined some function keys, you should be able to breeze through several communications sessions on multiple remote computers without ever letting go of the mouse.

Documentation

The documentation is a mixed bag. In order to get to the program disk, you are directed to read the user license agreement. The license states that the purchaser has the right to use inTouch for 20 years (admittedly a long time in this industry), and intimates that legal action may be taken if the registration form isn't returned before the program is used. The registration form entitles the purchaser

to 60 days of free support and the right to purchase the extended support plan.

The inTouch manual takes a brief, concise approach without skimping on vital technical detail. There is a section on troubleshooting, and a good section on modem switch settings, commonly used modem commands and cabling suggestions. The reference section is particularly well done, listing each menu and the available options.

The manual has a good glossary, a table of contents and an index. A very good tutorial on downloading uses CompuServe's on-line Apple Users Group (MAUG) as an example.

Overall Rating

InTouch is a worthwhile investment if you require one or more of the many terminals it can emulate, or if you have a non-Hayes compatible modem. At a list price of $145, it is more expensive than MicroPhone and Red Ryder.

RED RYDER, VERSION 7.0

Red Ryder is a rarity. Its advertising is by word of mouth, its packaging is low-key, and you can't buy it in a store. Red Ryder is "user supported software." There are many ways to get a copy (you can download it from a computer network, get a copy from a friend, or obtain it from a local user group), but there's only one way to own it: Send $40 to Scott Watson, the author. Scott's financial well-being is tied to this package, and he works on it full-time. In return for offering a powerful communications package at a ridiculously low price, he asks one favor: Please pay for it.

Features

When first booted, Red Ryder displays a window which cannot be moved or resized, with a few clickable controls at the top. There are four display options for this top area, which is called the status bar. The general status bar displays an elapsed time counter, an icon to save the current screen to disk in a text file, an icon to print the current screen, and several controls to send commonly used control characters to the remote computer. There is also a display of the current baud rate, parity, data bits, stop bits, and duplex settings of the modem. These are easily changed by simply clicking on the parameter you want to change.

There are three other status bar options. The macro status bar displays the macros the user has defined, and is used to invoke them. The tab status bar provides an easy way to visualize and set the tabs used by Red Ryder when sending information. The VT100 status bar sends characters not usually available on a Macintosh keyboard during VT100 terminal emulation.

Red Ryder has several file transfer options, including Xmodem with automatic MacBinary detection, Kermit (another verified protocol, supposedly more reliable than Xmodem), and straight text capture. These protocols include special features to make them less prone to failure on busy, slow-to-respond computer networks. Transfers slow down during peak usage hours on The Source and CompuServe; Red Ryder compensates for this by sending and receiving information at a slower, user-specified pace. None of the other packages have this ability.

Red Ryder offers several ways to save screens, either temporarily to memory or permanently to disk, automatically or manually. Up to 70 screens can be stored in memory on a 512K Macintosh. The number of stored screens can be configured, with a minimum of one required. This is very handy for avoiding the scrolling slowdowns incurred by saving large amounts of text in memory, although Red Ryder doesn't seem to slow down too much, anyway.

The Edit menu offers the choice of copying incoming data off the screen and pasting data from the Clipboard to the modem or to a desk accessory. Up to 10 macro keys may be edited at a time, and saved or loaded as files. Macro key definitions can include commands to load other macro files, extending the macro capability considerably. The three control code buttons in the general status bar are also user-definable.

Red Ryder will emulate VT52 and VT100 terminals, in 80- or 132-column mode. There are a few niceties to be found in the menus and dialog boxes, as well. A Check Free Space button lets you cycle through all the disks currently in drives and find out how many unused bytes remain. A Delete File feature makes more room on disks for incoming data without leaving the Red Ryder program. This is very useful for those who do a lot of downloading.

Host Mode enables the Macintosh to perform most of Red Ryder's functions under the control of a remote computer. It can be used to send or receive files to or from a distant computer without having to attend it. By using Procedures (described below), you can prevent unwanted callers from accessing a Macintosh running Red Ryder. This turns it into a sort of mini-BBS.

Red Ryder has a control language similar to MicroPhone's scripts and inTouch's CCL programs, that allows you to write programs called Procedures. It lacks automatic syntax checking, but the results are quite satisfactory. A feature called Write a Procedure for Me automatically generates a Procedure by recording your actions as you log on to a remote computer, retrieve mail, and so on. Red Ryder does not include prewritten Procedure files, but many are available from on-line services, and naturally, they're free.

Red Ryder has a turnkey provision for Procedure files. If, when Red Ryder is run, a Procedure file named "RRJ$" is on the same disk as Red Ryder, it is loaded and executed.

Performance

Red Ryder's design philosophy seems to be, "Let the user choose." Many of the working parameters of the program, such as the number of screens stored in memory, control character definitions, and keyboard mapping options, are modifiable by the user.

The absence of a coresident text editor tends to slow things down a bit, especially when editing Procedure files. I suspect that many users of Red Ryder will download another user-supported utility called MockWrite, which is

very similar to MicroPhone's MicroEditor. As Red Ryder's documentation points out, these two programs complement each other well.

The automatic Procedure generation works well, though not quite as smoothly as MicroPhone's Scripting feature. I found that some minor editing was sometimes required to make my Procedures work.

Error Handling

Red Ryder is a consistent performer. You must verify your choice to do something potentially dangerous like delete a file. I was unable to make it act up or lose data. We've come to expect a lot from Macintosh applications, and this is a solid program.

Ease of Use

Red Ryder would benefit from a little more layering of its command structure. There are too many options crammed into too few menus, and many of these options are for advanced users only. In this sense, the menus are too complex for first-time users, allowing access to powerful features that may intimidate or confuse neophytes.

Reviewing Red Ryder is like trying to hit a moving target. Scott Watson constantly listens to user feedback, tweaks the program here and there, and releases new versions. It is clear that he really cares about his end users and wants to create the best program he can.

Documentation

Red Ryder has an impressive warranty. Registered users are entitled to free and unlimited support via mail, through a dedicated Red Ryder BBS, or directly by phone to the author. If the program doesn't do what the manual says it should, FreeSoft will fix it or refund your money.

The Red Ryder manual is on disk, and you can print it out on an Imagewriter with MacWrite. The documents I received were 66 pages long for the version 6.2 manual, with a nine-page supplement covering the enhancements in version 7.0.

The manual contains a good technical primer for beginning telecommunicators. The section on Procedures is also very good, starting with examples of simple Procedures and proceeding to the more complex. The manual has a table of contents, but no glossary or index.

Overall Rating

Red Ryder is a strong telecommunications package loaded with features. It is particularly useful for those who spend a lot of time on national databases. While it is a bit complex to use at first, the manual can solve most problems.

At $40, Red Ryder is a rare bargain — clearly the best value of the packages reviewed here. It can also be said that Red Ryder is like New England weather. If you don't like it, just wait a while.

TABLE 1: Feature Comparison

Product	Works with Hayes and non-Hayes modems	Runs on 128K Mac	Saves text from selection	Saves text with append-to-file option	Built-in text editor	Transfer Options: Xmodem	Transfer Options: MacTerminal 1.1 Xmodem	Transfer Options: Ymodem	Transfer Options: Kermit	Transfer Options: CrossTalk	1K Xmodem	MacBinary Xmodem	Hayes Verification	Terminals Emulated: VT52	Terminals Emulated: VT100	Terminals Emulated: VT102	Programmable Features: Auto generated	Programmable Features: Syntax checker	Programmable Features: Program invoked by	Macros	Copy protected	Price	Special Features
inTouch	Yes	Yes	Yes	Yes	Yes	X	X			X		X		X	X		No	Yes	Menu and dialog box	Yes	No	$145	Interactive graphics; data-voice switching; on-line help
MicroPhone	Yes	Yes	Yes	No	Yes	X	X	X			X	X		X	X		Yes	Yes	Menu, button or key	No	No	$74.95	Includes Switcher; $15 value in connect time; 30-day money-back guarantee
Red Ryder	Yes	Yes	No	No	No	X	X		X			X		X	X		Yes	No	Menu and dialog box	Yes	No	$40	Auto MacBinary detection; remote control of program; user-supported
Smartcom II	No	Yes	Yes	Yes	No	X	X					X	X	X		X	No	No	Menu and dialog box	No	No	$149	Extensive terminal emulations; minor HFS incompatibility

NIBBLE MAC REVIEW CARD

SMARTCOM II 2.1D

Hayes Microcomputer Products
705 Wiestech Dr.
Norcross, GA 30092
(404) 441-1617
List Price: $149

CATEGORY	RATING
Performance	
Error Handling	
Ease of Use	
Documentation	
Overall Rating	

LEGEND: Five Macs = Excellent
Four Macs = Very Good
Three Macs = Good
Two Macs = Fair
One Mac = Poor

NIBBLE MAC REVIEW CARD

INTOUCH 2.05

Palantir Software
12777 Jones Rd., Ste. 100
Houston, TX 77070
(713) 955-8880
List Price: $145

CATEGORY	RATING
Performance	
Error Handling	
Ease of Use	
Documentation	
Overall Rating	

LEGEND: Five Macs = Excellent
Four Macs = Very Good
Three Macs = Good
Two Macs = Fair
One Mac = Poor

NIBBLE MAC REVIEW CARD

RED RYDER 7.0

The FreeSoft Company
10828 Lacklink
St. Louis, MO 63114
(314) 423-2190
List Price: $40

CATEGORY	RATING
Performance	
Error Handling	
Ease of Use	
Documentation	
Overall Rating	

LEGEND: Five Macs = Excellent
Four Macs = Very Good
Three Macs = Good
Two Macs = Fair
One Mac = Poor

NIBBLE MAC REVIEW CARD

MICROPHONE 1.0

Software Ventures Corp.
2907 Claremont Ave., Ste. 220
Berkeley, CA 94705
(415) 644-1325
List Price: $74.95

CATEGORY	RATING
Performance	
Error Handling	
Ease of Use	
Documentation	
Overall Rating	

LEGEND: Five Macs = Excellent
Four Macs = Very Good
Three Macs = Good
Two Macs = Fair
One Mac = Poor

LIONHEART

BUSINESS & STATISTICAL SOFTWARE

Explanatory books with professional compiled software; the new standard for statistical use. The influential Seybold Report on Professional Computing has this to say about Lionheart "...our sentimental favorite because of its pragmatic approach to the basic statistical concepts. The thinking is that the computer merely facilitates the calculations; the important thing is to be able to formulate a problem correctly and to determine what type of analysis will be most valuable."

- BUSINESS STATISTICS $145
- EXPERIMENTAL STATISTICS 145
- MULTIVARIATE ANALYSIS 150
- QUALITY CONTROL & INDUSTRIAL EXPERIMENTS 125
- FORECASTING AND TIME-SERIES 145
- SALES AND MARKET FORECASTING 145
- DECISION ANALYSIS TECHNIQUES 110
- LINEAR & NON-LINEAR PROGRAMMING ... 95
- PERT & CRITICAL PATH TECHNIQUES 95
- MONTE CARLO SIMULATION 125
- OPTIMIZATION 110

PC/MS-DOS, Macintosh, some CP/M

VISA, MasterCard, AMEX, Check

P.O. Box 379, ALBURG, VT 05440
(514) 933-4918 (800) 628-2828 Ext. 505

This publication is available in microform from University Microfilms International.

☐ Please send information about these titles:

Name _____

Company/Institution _____

Address _____

City _____

State _____ Zip _____

Phone ( ) _____

Call toll-free 800-521-3044. Or mail inquiry to: University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

Cellular Automata

NEW MATHEMATICAL TECHNIQUE OF PATTERN PROCESSING

SCIENTIFIC SIMULATION *AT ITS BEST*

Design models of real or imaginary systems by graphical programming. Packaged with our game of Life—the 70's hackers craze. Both are full featured with thorough documentation. An exceptional value!

$39.95
$3.00 S/H

TSE TECHNISOFT ENGINEERING

P.O. BOX 563, BREMERTON WA, 98310

VISA (206) 598-4177 master charge

WORKING SMARTER

THE BASIC-MULTIPLAN CONNECTION

by Pradip Chakravartti, M.D., Veterans Administration Medical Center, Martinsburg, WV 25401

Use this simple technique to transfer data from your Multiplan spreadsheet to your own MS BASIC program.

A sophisticated spreadsheet program like Microsoft's Multiplan could make the task of BASIC programming a lot simpler. When you use a large amount of data in a BASIC program, entering the data sequentially, updating the data periodically, editing it and performing various calculations on the data take a substantial amount of programming effort. Now anyone can create an integrated program using Multiplan and BASIC.

THE CLIPBOARD LINK

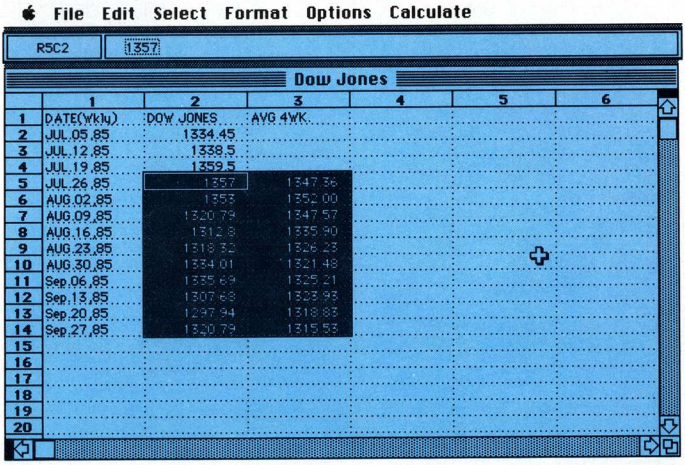
What is the link between a BASIC program and Multiplan? It's the same type of link that you can set up between a Multiplan document and Microsoft's Chart — the Clipboard. The Clipboard is a temporary storage area that is usually kept in the Macintosh System Folder. Just save the Multiplan data onto the Clipboard and have your BASIC program read it in.

There are several advantages to using this technique. You will not have to write subroutines to handle data entry, editing or updating. Ratios and values from raw data can be calculated in the spreadsheet. This will make your programs shorter, thereby increasing available memory. Your programs will also run a lot faster.

USING THE PROGRAM

Start Multiplan and enter your data. Sample data is shown in columns 1 and 2 of **Figure 1**. Column 3 is a four-week moving average. Data for R5C3 is calculated by adding R2C2 through R5C2 then dividing the sum by 4. Duplicate this formula for R6C3 through R14C3 by choosing Fill Down from the menu.

Select the spreadsheet cells R5C2-R14C3 (see selected cells in **Figure 1**) either by using the mouse or by typing the range. Use the COPY command from the Edit menu to save the



	1	2	3	4	5	6
1	DATE(Wkly)	DOW JONES	AVG 4WK			
2	JUL.05,85	1334.45				
3	JUL.12,85	1338.5				
4	JUL.19,85	1359.5				
5	JUL.26,85	1357	1347.36			
6	AUG.02,85	1353	1352.00			
7	AUG.09,85	1320.79	1347.57			
8	AUG.16,85	1312.8	1335.90			
9	AUG.23,85	1318.32	1326.23			
10	AUG.30,85	1334.01	1321.48			
11	Sep.06,85	1335.69	1325.21			
12	Sep.13,85	1307.68	1323.93			
13	Sep.20,85	1297.94	1318.83			
14	Sep.27,85	1320.79	1315.53			
15						
16						
17						
18						
19						
20						

FIGURE 1: Sample Spreadsheet Data

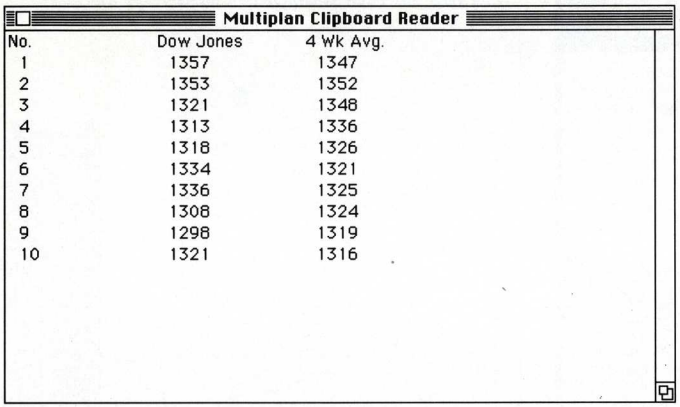


FIGURE 2: Data Display in BASIC

data onto the Clipboard. You can also save this document to disk for later use or modification.

Next, quit Multiplan and return to the Finder. Do not turn off the computer; if you do, all of the data in the Clipboard will be lost. Eject the Multiplan disk, insert the BASIC disk and start BASIC.

When you run the program ReadClip, the data that you entered in the Multiplan spreadsheet is available for you to use in a BASIC program (**Figure 2**). You can use the data to make graphs, a database or whatever you want.

ENTERING THE PROGRAM

Use either version of MS BASIC to enter **Listing 1**, and save it to disk as Multiplan Clipboard Reader. This is a very simple program. I have added some explanatory comments to the listing so that even a new programmer should have no difficulty understanding it. For help with entering *Nibble Mac* listings, see "A Welcome to New Readers" in the beginning of this issue.

HOW IT WORKS

When you copy cells into the Clipboard from Multiplan, they are saved in order from left to right across each row. The ReadClip subroutine first opens the Clipboard for input, and then enters a loop which reads each cell into one element of an array.

Each array corresponds to one column in Multiplan, and must be dimensioned according to the maximum number of rows. If you want to transfer more columns, just add more arrays, one for each column. When the loop is completed, each array will contain the data from one Multiplan column. You can then manipulate it in your program. The demonstration program simply displays the data on the screen.

The array type is important. If all your data is numerical, you can use a numerical array. Otherwise, you should use a string array, and keep track of which elements need to be converted to numbers.

POSSIBLE MODIFICATIONS

Instead of displaying the information on the screen, you may want to modify the program to write a text file on disk. By saving the data in a file, it can be accessed as many times as necessary, without returning to Multiplan.

Note: When keying in the program, do *not* press < Return > at the end of lines that contain the ►► symbol. See "A Welcome to New Readers" for details.

LISTING 1: Multiplan Clipboard Reader

```
'Multiplan Clipboard Reader
'by Dr. Pradip Chakravartti, MD.
'Copyright 1986 by microSPARC, Inc.
'Concord, MA  01742

'The Multiplan data is read into the A%() and B%() arrays.  Each array
'corresponds to one column in Multiplan.  You may add more arrays
'to handle more columns.
'The arrays must be dimensioned according to the number of rows
'in each column. You must be sure to copy the right number of rows
'and columns from Multiplan to the Clipboard.

ReadClip:
    i=1
    OPEN "CLIP:" FOR INPUT AS #1 'Clipboard is opened
    WHILE NOT EOF(1)  'This statement prevents reading past the end o►►
f the data
        INPUT #1,A%(i),B%(i) 'The two columns saved from Multiplan ar►►
e read
        i=i+1
    WEND
    CLOSE#1 'Close Clipboard File
    NofPts=i-1

' NofPts now contains the number of rows that were copied
' from Multiplan ( in this case it is 10 )
' The following statements just display the data

Display:
    CLS
    PRINT "No.","Dow Jones","4 Wk Avg."
    FOR i=1 TO NofPts
          PRINT  i,A%(i),B%(i)
    NEXT
    WHILE MOUSE(0)<>1:WEND 'Gives you time to look at the display . When
                                                'you are done, just cli►►
ck the mouse to end .
END OF LISTING 1
```

Cauzin strips for Multiplan Clipboard Reader appear on page 48.

MacLink

...the "intelligent" link between your Macintosh and the IBM PC

MacLink allows you to translate spreadsheet and word-processing files between the Macintosh and the IBM PC... easily and quickly.

Now you can translate spreasheets between Lotus on the PC and Multiplan on the Mac... including formulas, column formats, and functions.

And MacLink allows you to transfer any other type of file between the two machines as well ... including binary, CSV, SYLK, text, WKS (Jazz/Excel), and Word files.

MacLink's integrated communications and unique

Unique PC ⟷ Mac Translators!

And you can translate documents between Wordstar, Multimate or Displaywrite on the PC and MacWrite on the Mac ... including margin settings, paragraphing, columns, and print styles.

translators work via modems or with an optional PC to Mac cable.

The cost is just $125: This includes the MacLink manual, and a MacLink disk for both the PC and the Mac. $155 with cable.

DataViz, Inc.-16 Winfield Street-Norwalk, CT 06855
(203) 866-4944

Trademarks: IBM, Lotus, Macintosh, MacWrite, Multimate, Multiplan, Wordstar, Displaywrite, Excel, Jazz, Word

Make Your Mac Run Like a LISP Machine with MacScheme™

■ **HIGH QUALITY BYTE CODE INTERPRETER**
FAST as interpreted LISP on LISP machines
COMPACT CODE for large programs
RELIABLE error reporting and recovery
Debugger, trace facility
Now with *QUICKDRAW GRAPHICS*

■ **EASY TO USE**
Edit and evaluate expressions in any window
Editor matches parentheses, indents automatically
Needs only one drive, 512K or more RAM
Works with HFS and Macintosh Plus™
Not copy protected

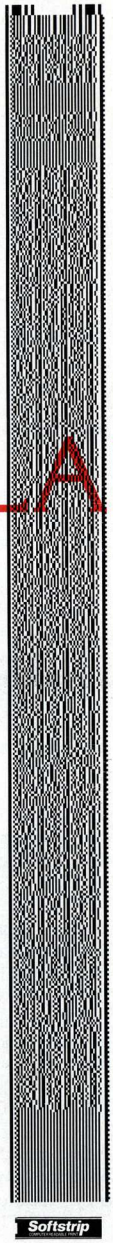
■ **CONFORMS TO 1985 SCHEME STANDARD**
Lexically scoped with block structure
True first class procedures
Generic arithmetic: fixnums, flonums, bignums
Strings, vectors, arrays, ports, etc.

VISA MasterCard **$125**

Semantic Microsystems

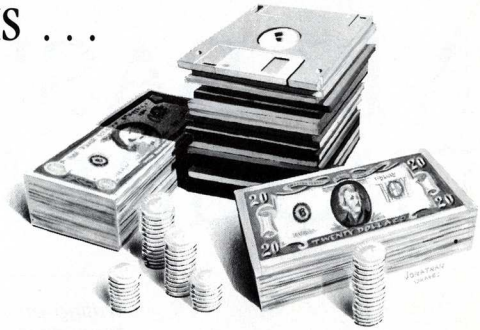
4470 S.W. Hall St.
Suite 340
Beaverton, OR 97005
(503) 643-4539

Cauzin strip for Multiplan Clipboard Reader

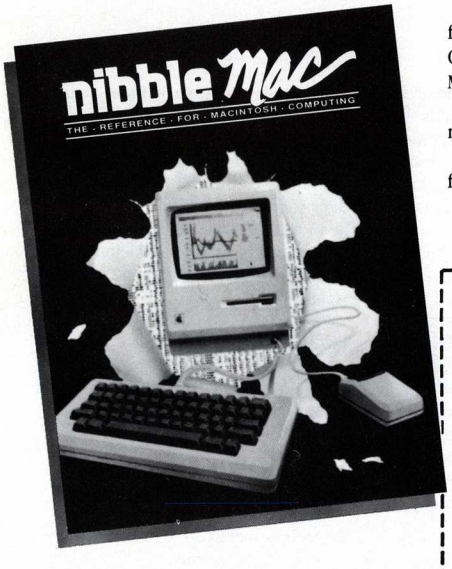


Once you decide on a Macintosh, your next choice is to buy . . .

THIS . . .



. . . OR THIS!



RISK-FREE Offer on the only Mac magazine you can really *use*!

Introducing Nibble Mac — the only Mac magazine with over $20 worth of programs in each issue!

Now — for only pennies apiece — you can get original Mac programs for business, home, personal finance, graphics, utilities, games and more! Checked by experts for quality and value. Ready to type and run with your Microsoft BASIC and other languages.

Plus the best tips, techniques, tutorials, and product reviews in the business. All backed by our unique personal service.

And there's no risk! If you ever feel Nibble Mac doesn't more than pay for itself, you'll get a complete refund on unmailed copies.

See for yourself. Subscribe today and save!

SPECIAL OFFER — SAVE 18%!

SEND MY RISK-FREE COPY!

☐ YES, I want to see it to believe it. If Nibble Mac is as good as you say, I'll pay your invoice for $19.95 and receive seven more issues backed by your ironclad guarantee. Otherwise, I'll return your invoice marked "cancel" and owe nothing. In either case, the first issue is mine to keep! (U.S. only)

☐ YES, I'm convinced. Send the next eight issues. My payment or credit card authorization for $19.95 is enclosed to avoid interruption due to billing. I understand I must be satisfied or I can get a refund on all unmailed copies at any time.

Name

Address

City State Zip

Payment enclosed ☐ Charge to my MasterCard ☐ Visa ☐ Bill me (U.S. only) ☐

Card Number Expires

Signature Telephone

Or to save time, call (617) 371-1660 with your MasterCard or Visa number.

Nibble Mac, 45 Winthrop Street, Concord, MA 01742

Foreign Subscription Rates: Canada Surface $27.95; Outside U.S. and Canada Surface $32.95. All payments must be in U.S. funds drawn on a U.S. bank.

Clip this coupon and mail today!

MAC UTILITIES

MS BASIC PROGRAM SHELL

Writing an event-driven program that conforms to the Macintosh user interface standards will be easier and faster when you use this program skeleton as your starting place.

by Jan Eugenides, P.O. Box 151, Maynard, MA 01754

Writing programs in Microsoft (MS) BASIC on the Macintosh is a little different from writing BASIC programs on any other computer. This is because Macintosh programs should conform to a standard user interface. Apple Computer has laid out some very specific guidelines to which all Macintosh programs are expected to conform. Failure to do so has several drawbacks:

1. Mac users are used to the standard interface, and are irritated immensely by programs that don't work as expected.
2. Programs that don't conform are harder to use than ones that do.
3. If you write renegade programs, you will lose the respect of other Mac programmmers.

The mark of a truly fine Macintosh program is that its use is intuitive. If someone sits down to run your program for the first time, and doesn't have to think twice about how to use it, you've done your job extremely well.

MODAL vs. NON-MODAL PROGRAMMING

The secret to writing Mac-ish programs is to make them non-modal. In conventional programs, the user is restricted to certain modes of operation. For example, a word processor might have an editing mode, a printing mode, a filing mode, and so on. While in the editing mode, you cannot do printing. While in the filing mode, you cannot do editing.

This type of program structure is contrary to the way people normally think about the tasks they do. People tend to skip from one thing to another and dislike being restricted. The Mac was designed to break away from this traditional view of programming. Instead of changing the way people think about tasks, a good Macintosh program works the way they think.

EVENT-DRIVEN PROGRAMS

The secret to creating non-modal programs is to make them event driven. This means that program flow is directed by various types of events as they are initiated by the user. The Macintosh menu system is a good example of event-driven programming. All the commands for a program are always available in the menus, just a mouse click away. The user can edit, search, choose a font, print, save or whatever at any time without restrictions.

MS BASIC makes it very easy to create event-driven programs if programmers can only break away from their ingrained ways of thinking. As it is so bluntly stated in *Inside Macintosh*, Apple's guide to Macintosh programming, "Everything you know is wrong."

PROGRAM STRUCTURE

A properly structured program contains several standard parts. The basic overall structure should look something like this:

1. Initialization — Declare all variables and initialize them to their beginning values.
2. Define menus — Create the structure of the menus.
3. Create window(s) — At least one window is usually created at this time, and others may be created later in the program in response to various events.
4. Turn on event trapping — Set up the branches to the subroutines that will handle the various events.
5. Enter an empty loop — An empty or idle loop is entered, and the program does nothing until the

user creates an event.

6. Branch to event subroutines — When an event does occur, the program branches to the proper subroutine to handle that event, handles it, and then returns to the idle loop to wait for the next event.

A PROGRAMMING SHELL

Because most programs contain many of the same basic subroutines, it is possible to create a shell program with all the pieces already in place. It's like a blank form, waiting to be filled in. **Listing 1** is an MS BASIC shell, with all of the most frequently used routines and subroutines in place. Many of them are nothing more than a label and a RETURN statement. The actual contents of each routine depend on the program, and that's your job.

The shell is an ideal place to start when writing a program. The correct overall program structure is already defined — only the details are missing. Using the shell will ensure that your program is well defined, easy to understand, and easy to debug. And it will give you a head start on creating a good non-modal Macintosh program.

ENTERING THE PROGRAM

To enter the program, first run MS BASIC 2.0 (or higher), either the binary or decimal version. Type in **Listing 1** and save it as BasicShell. For more information on entering *Nibble Mac* programs, see "A Welcome to New Readers" at the beginning of this issue.

HOW IT WORKS

There are no GOTOs in the shell. Everything is handled by subroutines that are called to handle specific events. This keeps everything modular, and makes it easy to determine what actions should take place in each routine. It also prevents you from writing "spaghetti code" that jumps here and there in an unreadable tangle. GOTOs should be used sparingly, if at all, in an MS BASIC program.

Initialize: The first thing to do in any MS BASIC program is to give a value to all scalar (non-array) variables that the program uses.

MacSPRINT, Cursor Editor and MS BASIC Program Shell are available on diskette for an introductory price of $19.95 plus $1.50 shipping/handling ($2.50 outside the U.S.) from Nibble Mac, 45 Winthrop St., Concord, MA 01742. Introductory price expires 8/31/86.

Note: When keying in the program, do *not* press <Return> at the end of lines that contain the ►► symbol. See "A Welcome to New Readers" for details.

LISTING 1: MS BASIC Shell

```
'      MS BASIC Shell
'      by Jan Eugenides
'      Copyright 1986
'      by MicroSPARC, Inc.
'      Concord , MA  01742

'      MS BASIC  (binary or decimal version)

GOSUB Initialize                    ' Set up variables, etc.
OpenWindows:
' Open your window(s) here
WINDOW 1,"Standard Window",(Left1,Top1)-(Right1,Bottom1),DocumentType
' Add buttons in one subroutine, since they never need to be redrawn
GOSUB MakeB1
' Add text and/or pictures in a separate routine that can be called
' by the Refresh routine when it's necessary to redraw the window.
' (i.e. when Dialog(0) = 5)
GOSUB MakeText1

WINDOW 2,"",(Left2,Top2)-(Right2,Bottom2),DialogType
GOSUB MakeB2
GOSUB MakeText2

'Activate event handling
AcEvent:
ON DIALOG GOSUB DialogEvent
ON MENU GOSUB MenuEvent
MENU 'turn off any highlighted menus
MENU ON
DIALOG ON

Idle:
WHILE TRUE%     'Endless loop
WEND
'===================================
DialogEvent:
MENU STOP:MOUSE STOP
Activity = DIALOG(0)
ON Activity  GOSUB ButtonEvent,EditEvent,Activate,GoAway,Refresh,Retu►►
rnEvent,TabEvent
MENU ON:MOUSE ON
RETURN

MenuEvent:
MOUSE STOP:DIALOG STOP
MenuSelect = MENU(0)
ON MenuSelect GOSUB FileMenu,EditMenu 'Put your custom menus here
MENU
MOUSE ON:DIALOG ON
RETURN

'===================================
FileMenu:
MenuItem = MENU(1)
ON MenuItem GOSUB QuitToBasic,QuitToDesk 'Insert your custom items be►►
fore these
RETURN

QuitToBasic:
END

QuitToDesk:
SYSTEM

'If you have defined a custom Edit menu, handle it here
EditMenu:
RETURN
```

The reason for this is twofold: First, it makes your program run faster, and second, it forces you to be organized and decide on the structure of your program up front. The scalar variables that are used by the shell are all set to zero here, except for the coordinates for the two windows, and the constant TRUE%, which is set to −1.

Next, you should dimension any arrays. The shell has no arrays, because they are always program specific. Finally, the menus are defined. The shell contains the definitions for the standard File menu. To follow the standard Mac interface, your program should always have a File menu with a Quit option in it, and if you need Open, Close, Save, Save As, or Print options, these also should go in the File menu. Be sure to turn off any menus you aren't using. Note that menu items which result in a dialog box rather than an immediate action have three dots following the item.

OpenWindows: After initialization, open the main window and any other windows that need to be open at the start. Your program should always open at least one window, even if it just contains some brief instructions. Never leave the user staring at a blank screen with nothing but menus.

AcEvent: This routine turns on event trapping, directs dialog events to the subroutine DialogEvent, and directs menu events to the MenuEvent subroutine.

Idle: The program waits in an endless loop until an event causes it to branch to either DialogEvent or MenuEvent.

DialogEvent: The program branches here when a dialog event occurs. There are seven possible dialog events: a buttonpress, a mouse click in an edit field, a click in an inactive window, a click in a window's close box (often referred to as a GoAway box), an update event (part of a window that was obscured has been uncovered, and must be redrawn), a press of the

LISTING 1: MS BASIC Shell *(continued)*

```
'====================================
' Handle the various dialog events in these routines
ButtonEvent:
ButtonPressed = DIALOG(1)
IF ButtonPressed = 1 THEN BEEP
IF ButtonPressed = 2 THEN BEEP:BEEP
'Handle the button press here
RETURN

EditEvent:
EFSelected = DIALOG(2)
'Handle change of edit fields here
RETURN

Activate:
WSelected = DIALOG(3)
WINDOW WSelected
RETURN

GoAway:
WGoAway = DIALOG(4)
'The system closes the window for you, but you
'should handle any associated chores here.
RETURN

Refresh:
WDirty = DIALOG(5)
'Redraw the dirty window here
IF WDirty = 1 THEN WINDOW OUTPUT 1:GOSUB MakeText1
IF WDirty = 2 THEN WINDOW OUTPUT 2:GOSUB MakeText2
RETURN

ReturnEvent:
'<RETURN> key should act like a press on the default button
'Handle it here
RETURN

TabEvent:
'Advance to the next edit field when <TAB> key is pressed
RETURN
'====================================
' Create your buttons here
MakeB1:
BUTTON 1,1,"Ok",(236,135)-(286,155),1
RETURN

MakeB2:
BUTTON 2,1,"Ok",(246,76)-(296,96),1
RETURN

'Create text here
MakeText1:
MOVETO 4,40
PRINT "This is how to refresh a window.
RETURN

MakeText2:
MOVETO 4,40
PRINT"See how the windows are properly re-drawn.
RETURN

'====================================
'Here is where you initialize variables, arrays, menus, etc.

Initialize:
'First initialize all scalar (non-array) variables
'Initializing them all here speeds program execution

MenuSelect = 0:MenuItem = 0:Activity = 0
ButtonPressed = 0:EFSelected = 0:WSelected = 0:WGoAway = 0
WDirty = 0

'Standard window coordinates
Top1=38  :  Left1=0  :  Bottom1=200  :  Right1=310  :  DocumentType=1
'Dialog type window coordinates
Top2 = 140:Left2 = 100:Bottom2 = 240:Right2 = 400: DialogType = 2

TRUE%=-1 :  FALSE%=0                        'Boolean constants

'Dimension any arrays here, after all scalars have been initialized
```

```
'Standard menus - add your own but don't change the standard ones
MENU 1,0,1,"File"   ' you may insert Open, Close, Save, Save As..., Pr►►
int in this menu before the Quits
MENU 1,1,1,"Quit to Basic"
MENU 1,2,1,"Quit to DeskTop"
'MENU 2 is Basic's standard menu.  Change it only for unusual programs.
'If you define your own Edit menu, Basic will no longer handle copy,
'cut and paste in edit fields.
MENU 3,0,0,""
MENU 4,0,0,""     'be sure to turn off any menus you aren't using, lik►►
e this
MENU 5,0,0,""
RETURN
```

END OF LISTING 1

<Return> key, and a press of the <Tab> key. The program branches to the appropriate subroutine to handle the event that has occurred.

MenuEvent: The program branches here when a menu item is selected, and then branches to the corresponding subroutine.

FileMenu: The program branches here when an item is selected from the File menu. MENU(1) will return the number of the selected item, and the program uses that value to branch to the correct subroutine.

QuitToBasic: Ends the program and resets the BASIC menu bar.

QuitToDesk: Ends the program and returns to the Finder.

EditMenu: Normally you can let the system handle Cut, Copy, and Paste within edit fields for you. Just leave the standard Edit menu up. If you define your own custom Edit menu, the system will no longer handle Cut, Copy and Paste in edit fields. You can't have it both ways, unfortunately. You should only define your own Edit menu for unusual applications, such as a graphics program which needs to cut and paste pictures.

ButtonEvent: If a button is pressed, the program branches here. DIALOG(1) will return the number of the button that was pressed. Your program should take the proper action for that button. If it is a complex action, you should probably create a subroutine to handle it, and then branch to it from here (for example, IF ButtonPressed = 3 then GOSUB DoButton3:RETURN).

EditEvent: The user has selected an edit field by clicking on it with the mouse. DIALOG(2) returns the number of the edit field that was clicked. Your program should make that the active edit field.

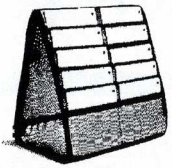
Activate: The user has clicked on an

Mac Values !

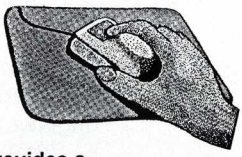
Great Values on these quality Accessories for your Mac !!

Easel ™ holds twenty 3.5" diskettes!

The Easel is a slim blue nylon diskette holder. When opened it creates its own stand. Each diskette label is in view so it is easy to find the one you want. The Easel is a convenient way to carry 20 diskettes and keep them organized. It measures 10.5" x 9" x .5"



The Easel .... only $17.95



The MouseMat ..... only $8.95

New! MouseMat ™ provides a smooth surface for you and your mouse!

The MouseMat is an exciting new, non-skid, comfortable surface for your mouse. It has a blue, woven surface laminated to a firm foam padded back to protect your desk top. It reduces wear on your mouse and keeps it gliding smoothly. The new Mousemat has a thinner profile for a more natural and comfortable natural and comfortable feel. Treat your mouse (and yourself) to the MouseMat.

The Mac Bag protects your Mac when you travel

Made of lightweight, strong Cordura ™ by DuPont, this silver travel bag even has room for accessories and your disk drive!

Mac Bag ..... only $54.95

To Order

Just fill in the form below and send it with your check or money order to:

ASI Products
PO Box 1169 Dept A-61
Cupertino, CA. 95015

No Risk! ... 60 Day Money Back Guarantee!!!

ORDER FORM A-61

NAME _____

TITLE _____

COMPANY _____

ADDRESS _____

CITY _____

STATE _____ ZIP _____

PHONE ( ) _____

Quantity

_____ MouseMat ..... $ 8.95 ea.

_____ Diskette Easel ..... $17.95 ea.

_____ Mac Bag ..... $54.95 ea.

ADD $2.00 SHIPPING & HANDLING

CALIFORNIA RESIDENTS ADD 6.5% SALES TAX

inactive window, requesting that it be made active. DIALOG(3) returns the number of the window to activate. The WINDOW WSelected statement activates the window. Most programs can use this routine as is, without modifications.

GoAway: The user has clicked in the close box of the active window. The system will close the window for you, but you should handle any associated chores here.

Refresh: The program branches here whenever any part of a window needs to be redrawn. For example, if a window which was partially covered is brought to the front, part of it will be empty. DIALOG(5) returns the number of the window requiring the update. I have included two windows in the shell to demonstrate how this important feature works. When you run the program, you will be able to move the first window around and activate either one. Notice that the text is always redrawn when a window is uncovered.

> The secret to creating non-modal programs is to make them event driven.

ReturnEvent: If the <Return> key is pressed when there is an edit field that does not accept <Return> keypress in the active window, the program branches here. The <Return> keypress should be handled as if the user pressed the default button (usually an OK button).

TabEvent: The user has pressed the <Tab> key. Your program should make the next edit field active, if there is more than one. Edit fields should be activated in order, left to right and top to bottom.

MakeB1: Creates an OK button in window 1.

MakeB2: Creates an OK button in window 2.

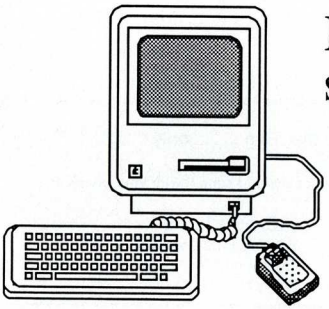
MakeText1: Displays text in window 1.

MakeText2: Displays text in window 2.

The last four Make subroutines are specific to the program, and were included as examples to demonstrate proper window refreshing. Change or add to them to suit your own purposes.

CONCLUSION

Now you have a head start on writing well structured, event-driven programs. Just start with the shell, fill in the subroutines as necessary, and any special subroutines your program might require — and you've done it!



It takes more than a pretty face to survive in the financial ocean!

IT TAKES MACMONEY™

- Lets you have up to 200 bank account, credit card, cash, expense, income, asset and liability categories
- Included is a financial goal, loan and retirement planner
- Advanced windowing features allow quick and easy transaction entry
- Extensive reports available, even on a Laserwriter™
- Transfer data to a text file for use with Excel™ and others for extended planning and manipulation
- Produce line and bar graphs plus pie charts for visual representation of information
- Uses data from the Macintosh™ version of The Home Accountant™ by Arrays, Inc.
- Requires 512K Macintosh™

A CHECKBOOK AND FINANCIAL PLANNER DESIGNED FOR THE MACINTOSH™ WITH THE USER'S NEEDS IN MIND.

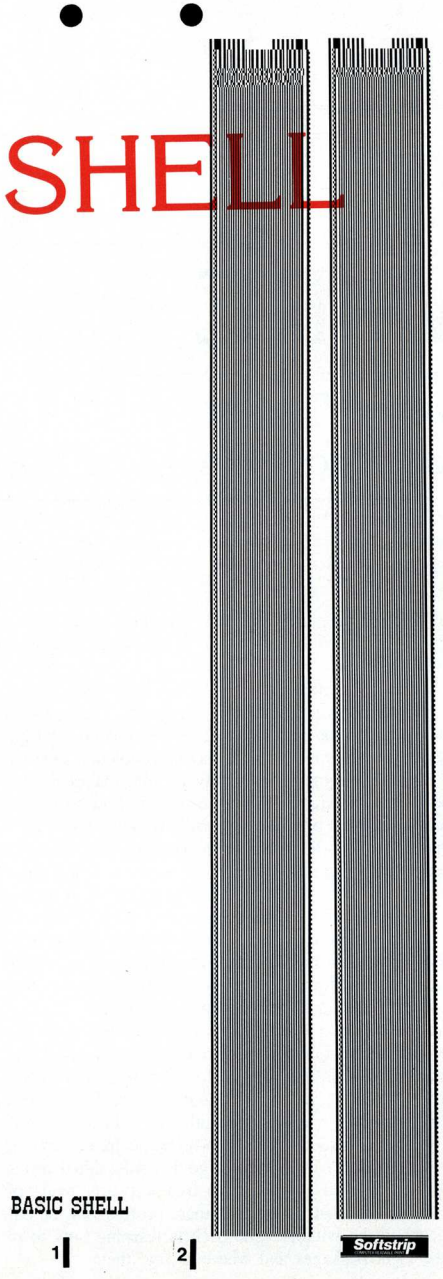
Order from: **Survivor Software Ltd.**/Dept 1N
11222 La Cienega Blvd, Suite 450
Inglewood, CA 90304
(213) 410-9527

Available June '86 for the **special introductory price** of **$74.95** plus $3.00 shipping/handling (CA res add $4.87 tax).

Special 30-day money back guarantee (less shipping & $15 restock fee)

Macintosh licensed to Apple Computer, Inc., Excel is a trademark of Microsoft, The Home Accountant is a trademark of Arrays,Inc, Laserwriter is a trademark of Apple Computer, Inc. and MacMoney is a trademark of Survivor Software Ltd.

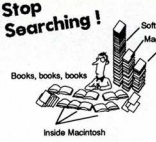
Cauzin Strips for MS BASIC Shell
For information about the Cauzin Softstrip Reader, contact:
Cauzin System, Inc.
835 Main St.
Waterbury, CT 06706



The Mac Reference System 128

The information you need to program Mac

Stop Searching !



- Parameters & value returned
- Concise explanations
- Indexed by keyword
- Special characteristics
- Data types
- Cross references
- Antonym functions
- Functions called
- Record formats
- Register assignments
- Trap words, package numbers
- Flags serious side effects
- Rating by prevalence
- Alternate code for non-ROM routines
- MORE!

Start Programming !

New edition for the 128K ROM

"Very useful for programmers and developers... ♦♦♦♦ "
"explanations and cross-references are available no where else"
— MacUser

Mac ROM traps, key functions and data structures consolidated and organized for easy learning and easy programming

DATABASE $ 64.95
Quick retrieval by function and keyword. Global search of text to get quick answers and discover new solutions. This database runs under Microsoft File.

CARD DECK $ 79.95
Deck of 3 by 5 cards that you can organize to suit your needs. Compare related functions side by side. Arrange them to plan programming strategy.

CROSS-REFERENCE CHART $ 12.95
Large wall-size chart cross-references all 750 elements by Action performed & Object acted upon. Keyed to Apple's IM and our Reference System. Great way to get the big picture!

STOP wasting time! Order direct from us

Quick service on telephone orders

Great Deal !

TOM Programs
Suite 34 - N
1500 Massachusetts Ave NW
Washington DC 20005
(202) 223-6813

MasterCard VISA

GET ALL THREE for only $125.00

DC residents add 6% sales tax
Prices include USA postage

Outside North America add $20 for air shipment
West Coast: we recommend adding $3 for air shipment

Macintosh is a trademark licensed to Apple Computer Inc Microsoft is a trademark of Microsoft Corp

McAssembly™

The assembler for the BEST of us!

Assembly Language Development System for the Macintosh

Includes manual, McAsm™, McLink™, McBug™, EDIT, system equate files.

- Two pass
- Dummy sections
- Alphabetic local labels
- Built-in resource compiler
- Fast listing to file or printer
- Example working application
- Built-in cross reference listing
- External symbols useable in McBug
- Based variables, no need to use (An)
- Shell & utility code fragment modules
- Full listing, titling, & pagination control
- Auto-alignment with odd address warnings
- MDS .REL format conversion utility

$89.95

Signature Software
2151 Brown Ave • Bensalem, PA 19020
(215) 639-8764

MITCH'S MACINATIONS

VIRTUALLY FREE SOFTWARE

You Can Get Hundreds of Powerful Programming Tools and Utilities for Free — If You Know Where to Look

by Mitch Waite and Harry Chesley

I had a wonderful experience the other evening when a new friend, Harry Chesley, showed me through the Macintosh Software Emporium and Developers' Hitching Post. Miles of shelves were filled with incredible software for my Macintosh — and they were almost all free. I found a complete Modula-2 compiler for my 512K Mac. Next to it was an implementation of XLISP, an exciting new variation on the famous list processing language. I had never seen any of these products in other stores.

In a back room called the Communications Feed Barn, I stumbled onto a fantastic telecommunications program (with macros *and* procedures) and a tool for stripping control characters from text files. Another room contained utilities for creating and modifying icons and menus, a File Editor for exploring the internals of files, a voice synthesizer program that could be accessed from the keyboard or by another program, and even an editor-terminal-printer desk accessory program that can be run while you are in another program.

I was overwhelmed. To top it off, Harry led me to a place where programming gurus hang out. They talked to me about problems I was having with my code, and gave me example programs to help fix the problems. One expert was the designer of the software that makes my Hyperdrive run. He was about to tell me how to get my Microsoft BASIC program to scroll windows when an alarm in the Software Emporium went off. His face started to shimmer, the room faded. . . and I woke up.

The phone was ringing. Harry had a disk of programs hot off MAUG and wanted to bring them by. There was a new resource editor and a scientific calculator that, he claimed, rivaled my HP-45 (it even had a pop-up ASCII chart). There was a new Lord of the Rings Finder and a way to turn the trash can into an incinerator.

The dream I had wasn't just a dream. There is no Software Emporium, but you can get hundreds of powerful programming tools and utilities for free — if you know where to look. As with most things that are free, a lot of this software is not very good (although a lot of software you pay for is also not very good). Some free software, however, is worth its weight in gold. Professional programmers are well aware of this free software, many of which are tools that no programmer, professional or otherwise, should be without. The trick is learning how to pick out the right packages and where to find them.

Mitchell Waite is the President and C.E.O. of The Waite Group, a San Francisco-based computer book publisher. You can write to him care of CompuServe (75146,3515) or Nibble Mac. Readers in the San Francisco Bay area can contact him on The Well (415-332-6105, login:mitch). Since electronic mail is easier and quicker, Mitch urges you to use this method.

Harry Chesley is the publisher of MacDeveloper, the first electronic magazine for the Macintosh. He can be reached on his own BBS, at (415) 563-2491 (modem only).

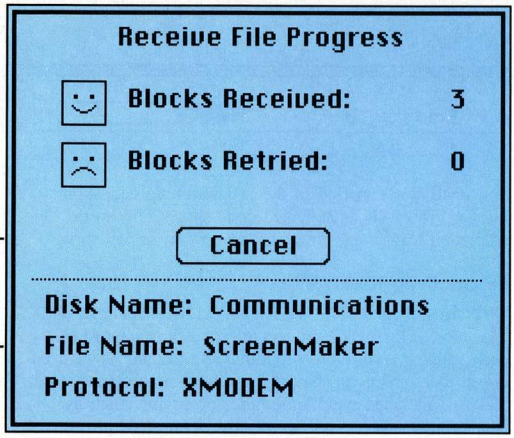


FIGURE 1: Smartcom II Receive File Status Window

WHAT IS FREE SOFTWARE?

Most users buy software at a computer store. The store buys it from a software distributor. The distributor buys it from a software publisher. The publisher buys it from a developer — or employs developers — and publishes the software. Naturally, everyone in this chain wants to make a profit from their particular service.

There are ways to get software that shorten the chain between the program developer and the user. Shortening the chain lowers the price of the software, sometimes even to zero. There are four basic sources of free or virtually free software: the public domain, shareware, demonstration releases and free, licensed software.

Of the four types of virtually free software, the fastest growing categories are public domain programs and shareware. Shareware programs are often large programs undergoing revisions, or programs that have been found useful to a large number of people.

Public Domain Software

Software in the public domain is free and available to everyone. Why would anyone give away a program that took a great deal of time, effort and resources to develop? Some public domain programs are developed by nonprofessional programmers who aren't in a position to market them, or aren't interested in doing so. Some are developed by professionals, but have such specialized and unique applications that they are considered unmarketable. By giving them away, the developer hopes to build a reputation or learn more about the market for a similar product. Some programmers would rather see their programs widely used than make money from them. And some programs are developed under government research contracts, which generally stipulate that any software developed be placed in the public domain. There are thousands of programs in the public domain, and some are very powerful, useful and valuable.

Shareware

Shareware is a new distribution idea based on the honor system. The software is distributed for free, and you are encouraged to give copies to friends. There is a trial period (often 30 to 45 days), during which you have a chance to try out the program and see if it meets your needs. After the trial period, you are requested to either send in payment for the software or delete it from your disk. This system only works if the end user is honest enough to send in the money. Unfortunately, a lot of people aren't. But enough are that some developers swear by this means of distribution. Many people pay for the software in order to register it so that they can get upgrades as soon as they are released, or so that they can talk with the developer without feeling guilty.

Shareware has two major advantages over traditional means of distribution: It's less expensive, so the developer can put money into making a better product, and the software gets from the developer to the market more quickly. So, while shareware isn't free, you can try it out without paying for it first. A typical shareware program costs anywhere from $5 to $50.

Some shareware programs have become so popular, they are supporting the authors who wrote them. Scott Watson, author of the popular telecommunications program Red Ryder, runs a small business on the income from the Red Ryder product.

Demonstration Software

Some companies distribute "crippled" versions of the complete programs that are sold in retail stores. The crippled version is deliberately incomplete; it merely demonstrates the product. Programs are most often crippled by either limiting the size of the document it can work on (maximum number of records in a database, for instance), or by removing an important function (print or save, for example). This approach lets potential customers try out the program without actually buying it, but still ensures that they do pay for the complete working version.

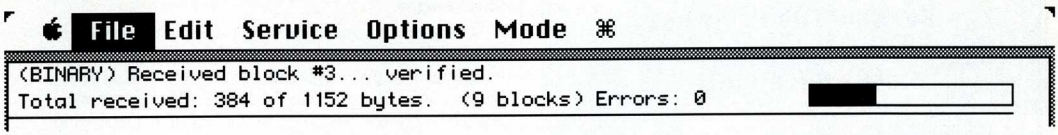
Licensed Software

Some software (notably certain Apple products) is distributed for free, but the copyright is still owned by the publisher. This is done for two primary reasons: To help test the software by having people use it and report bugs before the official release, and/or to distribute software to developers, who must pay a license fee to include it in their own products. An example is Switcher, which was available for free on CompuServe for about eight months prior to its final release. Switcher is now a licensed Apple product that can be purchased in retail stores.

THE BEST

One problem with using free software is deciding which programs are worthwhile and which are poor performers or too buggy to be of any use. With so much virtually free software available, separating the wheat from the chaff can be an obstacle in itself. To get you started, here are my choices for the best public domain and shareware programs for the Macintosh programmer. This is just a

FIGURE 2: Red Ryder 7.0 Receive File Status Window



partial listing, as there are hundreds of available programs.

Programming Languages, Tools and Utilities

ETH Modula-2 [public domain] — This is a full-blown Modula-2 compiler from the Institut fÜr Informatik in Zurich, Switzerland. According to Wirth, Modula-2 is the spiritual successor to Pascal, and it's perfect for large programming projects.

XLISP [public domain] — If you've ever wanted to try LISP, or if you know LISP and want to tinker with object-oriented languages (like Smalltalk), this is a good, complete implementation. Artificial intelligence programs use LISP. Since LISP is an interpreter, you can learn a lot about the language with just this one program.

ResEdit [licensed] — This utility lets you edit resources. You can change the appearance of icons such as the trash can, change text strings, add icons to menus, widen dialog boxes, and modify the appearance of most programs and the desktop.

FEdit [shareware] — This utility lets you examine and modify the contents of files, file headers, and disks. You can also modify the boot information on the disk, including the size of the event queue, which is used, among other things, as the type ahead buffer.

PackIt [public domain] — This utility packs multiple files into one; it also unpacks them. You can use it to pack and unpack files for transmission over telecommunications services or to pack files for archiving. This can save disk space on hard disks, where small files take up inordinate amounts of space. (This utility was written by Harry Chesley, one of the authors of this column.)

dCAD Calculator [shareware] — This is a full-function scientific calculator desk accessory that rivals the HP-45 programmable calculator, but requires no batteries. It offers base conversion for programmers, and even has an ASCII chart.

MacinTalk [licensed] — Hear the Macintosh talk with this speech synthesizer. It converts text to speech, and turns an ASCII string into phonemes. A complete speech lab tests the speech. The final version will speak as male or female. You can even make realistic sound effects using pure phonemes. You have to hear it to believe it!

Megaroids [public domain] — The best thing about this implementation of the arcade game Asteroids is that its Megamax C source code is available. This is one of the best deals you can find in the programming education market. The well documented code shows how to do fluid animation using page flipping and how to set up sprites.

Productivity Tools

Switcher [licensed] — Turn your 512K Macintosh or Macintosh Plus into a number of smaller Macintoshes, each running a different program, and instantly switch between them. You can buy this utility at a computer store, and it is included with some other programs, such as Microsoft's Excel.

Extras [shareware] — This desk accessory shows you how much disk space is left, deletes and renames files, and compacts the heap. Why Apple left this out of the Macintosh, I'll never guess.

SkipFinder [public domain] — Skip from one application to another without returning to the Finder. SkipFinder can be used like the MiniFinder on the Special menu. When you quit an application, a file selection box lets you choose your next application. Since SkipFinder is a desk accessory, you can open it while in any application.

Locator [public domain] — Display a magnified area surrounding the mouse cursor with the mouse coordinates in relative or absolute format. This desk accessory helps programmers find x- and y-coordinate values for the location of a window or object.

Keycaps [public domain] — Programmers will want this desk accessory to display the keys for any fonts defined in your system folder.

Screen Maker [public domain] — This utility converts a MacPaint document for display in place of the standard "Welcome to Macintosh" screen. Create a custom opening screen for a program disk, or brighten up your day each time you turn on the Macintosh.

Telecommunications Programs and Tools

Red Ryder [shareware] — This is one of the best telecommunications programs available. It includes Xmodem and Kermit file transfer, VT52 and VT100 terminal emulation, and automatic operation using scripts. It has lots of neat features and lets you download programs with a visual interface that is almost the match of Smartcom II. Make it one of the first shareware programs you get.

FreeTerm [public domain] — This telecommunications program provides simple terminal emulation and error-free Xmodem file transfer. It does not provide all the refine-

ments of Red Ryder, like macros and procedures, but it does a good job of transferring files, and it's free. Apple supplies FreeTerm on the Software Supplement disk. It is also widely distributed by user groups.

VCO [shareware] — The first Macintosh visual/voice conferencing program lets you see (as icons) and hear (using MacinTalk) the people with whom you have a conference on your telecommunications service. Harry Chesley wrote VCO and is now working on the next version of VCO. VCO is popular on Delphi, GEnie and the Well.

VMCO [public domain] — This is a program similar to VCO, by Bob Perez, tailored for CompuServe.

MockWrite/Term/Print [shareware] — These three desk accessories let you edit text files, use your modem and print text files, all without leaving the program you're running. MockWrite especially can save huge amounts of time, since it allows you to edit a text file without leaving your program to start an editor such as MacWrite or Microsoft Word.

Apple's Software Supplement — Apple compiles and distributes this group of programs and documentation for software developers. It was originally distributed by mail on disk, but Apple is now distributing it via the telecommunications services. ResEdit, Screen Maker, MacinTalk and Switcher (described above) are part of the Software Supplement, but there are dozens of other programs, technical notes, updates to *Inside Macintosh*, and so forth. This information is essential to serious developers, helpful for part-time programmers, and of interest to anyone seriously involved with the Macintosh.

WHERE TO GET IT

There are a number of ways to get the software I've described. Probably the best source is a friend who has the software. He or she can show you what's available, where to get more and give you copies of programs on disk.

Another excellent source is a local user group. These groups often maintain libraries of public domain and shareware software, available free or at a small charge to members. User groups can be a great help in other areas as well. If you have a problem using your Macintosh or want to know the best software for some job, you can be pretty sure that someone in the group has already solved the same problem, and will be happy to share the answers with you. Many user groups publish newsletters, too. The largest user groups are the Berkeley Macintosh User's Group (BMUG), the Boston Computer Society and Club Mac; addresses for these groups are given at the end of the column.

Some computer stores maintain a set of public domain software. It can't hurt to ask. A dealer who has your best interests at heart will at least be able to point you in the right direction.

The most immediate, up-to-the-minute sources of software are available by telephone. For the user who lives in a small town located 100 miles from the nearest software store, these services open a software gold mine. In order to use them, you need your Macintosh, a modem (to allow the Macintosh to communicate over the telephone), a telecommunications program and, of course, a telephone line. Although it takes some work to learn how to use these systems, they provide enormous amounts of information and software. And they are much quicker than traditional channels of distribution. A new public domain program that appears on the timesharing services today will probably find its way to the user group library next month, and it may never find its way into your local computer store.

Telecommunications Services

There are two classes of telecommunications services: timesharing systems for a fee and free bulletin board systems (BBSs). Timesharing services charge users an hourly fee. Most distinguish between prime time (generally between 8:00 a.m. and 6:00 p.m. on weekdays) and nonprime time. Prime time fees are substantially higher and most users avoid using the services during those periods. BBSs charge the user little or nothing, and generally offer far fewer programs than the pay services.

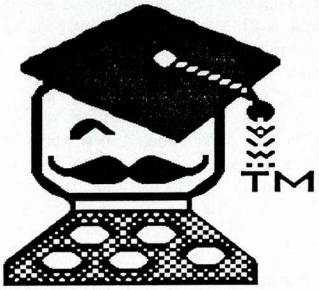
In both cases, users run a program that allows them to send and receive programs through a modem connected to the telephone line. They call up the service they wish to access, and then use the Macintosh to read messages on the service or to transfer files from the service to their Macintosh. Keep in mind that the larger services cater to users of other computers as well as the Macintosh, and that many of the pay services contain much more information than you need, both technical and nontechnical. We'll talk about the mechanics of using these services in the After Midnight section of the column.

Bulletin Board Systems — These systems are generally run by altruistic people who spend lots of time, money and energy so that other people can use their computers, but they can't. Some of them charge a nominal one-time access fee (generally $20), but most are free. Once you have a modem and telecommunications software, find the phone numbers of some local BBSs and give them a call. It won't cost you anything, and you may gain a great deal of software and information. There is a sense of community on most of these systems that makes the time spent finding them worthwhile. Due to the shoestring nature of BBSs, they appear and disappear with alarming speed. It isn't possible, therefore, to include a list of BBS phone numbers in this column. Once you find one BBS, however, you'll often find a list of other local BBSs on-line. A Mac-oriented BBS called Harry's BBS, run by Harry Chesley, can be reached at (415) 563-2491 (computer/modem only).

CompuServe — This is the largest timesharing service, with over 250,000 subscribers. MAUG (Micronetworked Apple User's Group) is the organization that runs the Macintosh (and Apple //) groups on CompuServe. A staggering number of public domain and shareware files are

MacTutor

The Macintosh Programming Journal



Simply the finest monthly technical Journal available for the Macintosh. Contains no fluff, only programs in C, Asm, Pascal, Basic & Forth. US 3rd class: $30; US 1st class, or Canada: $45. All Overseas: $60. (714) 630-3730.

Mention this ad and get $6 off!

MacTutor
P.O. Box ~~846~~ 400
Placentia, CA. 92670

Megamax C

for the Macintosh™

Featuring

• One Pass Compile • In-line Assembly • Smart Linker • Full Access of Macintosh Routines • 6 Register Variables • Dynamic Overlay Support • Program Profiler • and much more ...

System Includes:

• Full K&R C Compiler (with common extensions) • Linker • librarian • Disassembler • C Specific text editor • Code Improver • RMaker • Examples • Documentation • and Batch — a full featured command language processor.

"Megamax C is a fantastic development system and should become the new standard language for Macintosh software development"
MACazine — Jan. 85

Name	Size	Time
STEVE	5632*	4.17
	5608	6.2
FIBONACCI	5610	26
"HELLO, WORLD"	5100	N/A

*using register variables

Megamax C $299.95

Megamax C Debugger $99

Megamax C now available for Atari ST computers

Call or Write for more information, to:

Megamax, Inc.
Box 851521
Richardson, TX 75085-4521
(214) 987-4931

VISA, MC, AMX, COD accepted

available on-line including the Software Supplement from Apple. In addition, a very large message system allows users to exchange information about the Macintosh — the number of messages sent on MAUG has passed 260,000!

Nonprime time CompuServe costs $12.50 an hour at 1200 baud, or $7.50 an hour at 300 baud. The baud rate, measured in bits per second, determines how long it takes information to be transferred between your Macintosh and the service. The 1200-baud service can actually be cheaper, since less time is spent transferring information. Of course, 1200-baud modems are more expensive than 300-baud modems. Prime time service is $25 an hour at 1200 baud and $15 an hour at 300 baud.

You can buy CompuServe Starter Kit subscriptions at many computer dealers and bookstores, at Radio Shack, and from CompuServe (see the end of the column for ordering information). Some telecommunications programs offer free introductory subscriptions to CompuServe.

Delphi — This service, by virtue of its smaller size, has a more homey feeling than CompuServe, which tends to have the hectic feeling of the floor of the New York Stock Exchange. There is a very warm sense of community on Delphi, which comes across especially strong during the Sunday night on-line conferences. It's less expensive than CompuServe: nonprime time Delphi costs $6 an hour at 2400, 1200 or 300 baud. It offers quite a few files — including the Apple Software Supplement — though not quite as many as CompuServe. You can subscribe to Delphi by calling (800) 544-4005 (voice).

GEnie — This is one of the newest services. Still growing in users and messages, it has one feature that makes it really stand out: file transfers from GEnie to your Macintosh are several times faster than any of the other services (except for BBSs). This means cheaper transfers and less time spent twiddling your thumbs waiting for the transfer to be completed. Nonprime time GEnie costs $5 an hour at 1200 or 300 baud; prime time GEnie costs $35 an hour (make sure you call during nonprime time.) The Apple Software Supplement is available here, and due to the lower transfer costs, this is a good place to download it.

To subscribe to GEnie, use your computer and modem to call (800) 638-8369. Set the telecommunications program to half duplex and type h's until GEnie responds with #=. Then type **XJM11993,GENIE** and press <Return>. GEnie will lead you through the subscription process.

We hope you're excited. You have an idea of what the great software is, and you know about the different telecommunications services. Next, you need to know how to get connected and get your hands on this software. In After Midnight we'll explore two of these services, look at several modem programs for accessing them, and learn how to do an Xmodem download.

AFTER MIDNIGHT

DOWNLOADING SOFTWARE

In a more perfect world, obtaining software from a tele-

communications service would be a matter of simply calling up the company and typing something like, "Send me ResEdit." Unfortunately, even the advanced Macintosh has a way to go before you can do that. For now, you must wade through a set of steps that can be bewildering. In this part of the column, we will show you how to transfer files from CompuServe and Delphi to your Macintosh, using the Xmodem protocol and three different telecommunications programs: the retail product Smartcom II, the shareware product Red Ryder 7.0, and the public domain program FreeTerm 1.7.

First, let's look at the general process of transferring files, and then we'll go through it, step by step. To access one of the telecommunications services, you'll need a Macintosh, a telephone line, a modem, a telecommunications program, and an account on one of the services. You will need to read the instructions for the modem and learn how to hook up and use these products, and also learn how to log onto the service. We won't cover all the steps to getting connected, but here are a few important details to know.

You need to find a way to call the service that doesn't involve a long distance call and high extra phone charges. There are two ways to connect to CompuServe: through the CompuServe network or through a special carrier network like Telenet or Tymnet. The difference is price: Telenet and Tymnet add a $2 an hour surcharge to your bill, while CompuServe only adds 25 cents per hour. Which network you use depends on where you live — check the manual CompuServe provides with your registration.

Delphi can be reached by direct dial or through Tymnet and Uninet. Delphi does not charge an extra fee for access through either of these networks.

TRANSFERRING FILES

Transferring files from one disk to another on the Macintosh is easy: you just point and drag. One of these days, it will be just as easy to transfer files across phone lines. But it isn't yet.

To understand what's involved in transferring a file, you need to know a little bit about how Macintosh files are structured internally. Each file has two forks: the data fork and the resource fork. Each fork consists of a block of bytes. The data fork contains the contents of documents, the cells of spreadsheets and so on, while the resource fork contains, among other things, the icon for the file, the program code, details about the menus, and so on. Besides the two forks, additional information about the file — the type of data, the application to run when the file is invoked (if it's a document), and so on — is in the file header.

To reconstruct a file, all three parts — the data fork, the resource fork and the header — must be transferred to and reconstructed at the destination Macintosh. In a perfect transfer, you should see the icon for your new program appear on the desktop, ready to work when it's double-clicked.

Thus, we can only send a program if the transfer program takes into account these different file components,

CLR Libraries Unleash the Full Power of the Macintosh from Microsoft® BASIC

A little known but very powerful feature of BASIC is that it can be extended to include additional statements. These statements are stored in libraries and function just like standard BASIC statements. The CLR Libraries consist of three extensions to BASIC. With these extensions, BASIC becomes an excellent language for the development of major applications while retaining the simplicity that makes it so useful for the development of small programs.

ToolLib
Scroll bars
Regions
Alerts
Resources
and more!

MathStatLib
Matrix Operations
Sorting
Statistical Functions
and more!

SpeechLib
Speech Synthesis
Phonemic Input
English Input
Exceptions Dictionary
and more!

The libraries are $35 each plus $3 for postage and handling ($6 for overseas delivery). For a limited time, CLR ToolLib and MathStatLib can be purchased together for $50 + $3 postage and handling. Texas residents include sales tax. Visa and Mastercard® cards welcome. Microsoft BASIC 2.0 or 2.1 is required but not included. To order or request a brochure, call 1-800-835-2246 x199 7 days a week, 24 hrs a day. (In Kansas, 1-800-362-2421 x199)

Or write: Clear Lake Research, 5615 Morningside #127, Houston, TX 77005

NEW: The French edition of ToolLib and MathStatLib can be obtained from Infotique,20, rue de l'Hôtel-Dieu, 95300 PONTOISE, FRANCE.

!!! INTRODUCING !!!

TWO **SUPER** FINANCIAL PACKAGES FOR THE **MAC!!**

Money$oft Personal Financial Management: integrated checkbook and budgeting with comparisons and checkprinting, personal worth statements, "spendaholics exam", insurance and college planners, retirement contributions, amortizations, multi-reporting and graphic options, and much more! **$79**

PAR Real I Real Estate Analyzer: income property analysis, financial statements, "creative" amortizations and loan evaluations, "what if" capabilities, cash flow, tax benefits, rates of return, key ratios, purchase/sell agreements, multi-reporting and graphic options, and much more! **$149**

TOLL FREE 1-800-433-8433 Outside Washington
COD, MC, VISA, AMEX (Dealer Inquiries Invited!)

** **FREE SPECIAL OFFER NOW!!** **
Heavy Duty "No-Hassle" disk jackets with your purchase!

PAR Software Inc.
Professional Automation Resources
P.O. Box 1089 • Vancouver, WA 98666 • (206) 695-1368

BASIC COMPILER

for MAC

Our compilers are compatible with IBM PC BASICA and very compatible with BASIC 2.0 for the Mac (line labels, menus, dialog boxes are the main differences). Our Mac BASIC puts the full power of the toolkit (the ROMs), graphics, and resource files at your command. If you are having trouble getting into the Mac, our supremely easy BASIC will help immeasurably. These are true compilers generated either an object module or assembler source. We also have a Lisa cross compiler.

NEW PRICE!

PCMacBasic Compiler $100.00

pTERODACTYL Software

P.O. Box 538 200 Bolinas Road #27 Fairfax, Ca 94930

(415) 485-0714

A small, responsive company in business 4 years as programmers, book authors, Mac-Lisa consultants. Send for free 3 page spec sheet or give us a call.

Have you created a powerful program, a super spreadsheet template, a first-class font, or a secret power user technique for using programs like MacWrite or MacPaint? Share your creation with Nibble Mac's readers! You'll be paid generously for your article, and if your work is included on a Nibble Mac disk, you'll earn royalties, too!

For instructions on submitting articles, send for our complete Author's Guide.

nibble mac, 45 Winthrop St., Concord, MA 01742

something non-Macintosh programs don't do. To further complicate the process, phone lines are sometimes noisy. This noise can cause errors to be introduced into the file as it's transferred. The errors must be detected and corrected.

USING XMODEM

The error detection and correction part of the transfer is handled by Xmodem, a special procedure (or protocol) to transfer information between the sending and receiving computers. The sending computer sends information in blocks of 128 characters, along with a number that represents the sum of the characters. The sum is used to check if the block was received without errors. The receiving computer adds up the characters, and compares the result with the sum sent by the sending computer. If the numbers agree, the receiving end assumes that the received block is free of errors and moves on to the next block.

If the numbers differ, the receiving Xmodem system requests another send. It may request up to 10 sends until the characters come in correctly. Note that with this approach, if the line is very noisy, all 10 retries may be bad and the file transfer will fail. If two characters change, the mistakes might cancel each other and a bad block would be accepted, but the chances of this happening are very slim. This simple method has been widely adopted by communications companies and is available on almost all the services.

A special version of Xmodem, called MacBinary, has been adopted as a standard for Macintosh file transfers. This protocol uses Xmodem for error checking and allows the transfer of both the data and resource forks of a Macintosh file. Most Macintosh telecommunications programs include a MacBinary file transfer option that will automatically recreate the transferred file on your Mac's desktop, complete with its original icon and name.

In the following examples, we will download a MacBinary formatted file from CompuServe or from Delphi using the Xmodem file transfer protocol. During a download, a file is sent "down" to the Macintosh (when you upload, it goes up to the great mainframe in the sky).

FINDING THE DATA LIBRARIES

Before you can actually download a file, you must gain access to the data libraries of the service you are using. For this example, we will show you how to reach the data libraries on CompuServe and Delphi.

CompuServe

For CompuServe, after you have logged onto the system according to the directions in your CompuServe manual, the first menu you see is What's New on CompuServe. Skip this menu by pressing <Return>. The next menu is called Top, and it is the main CompuServe menu. At this menu, type **GO MACUS <Return>**. This takes you to the Macintosh user's group area. The first time you enter, you are presented with a menu that allows you to join the group. Though there is no fee for joining, MAUG requires a day or two to process your request for membership, so plan ahead. You must join in order to have

access to the data libraries.

Once you have joined, the first menu is the Functions menu. Choose item 4 (Data Libraries). This takes you to the Data Library Subtopics menu. Choose item 3 (Programming). You are now in the section 3 data library, which has its own menu. Choose item 2 (Browse). The system will respond:

```
Enter keywords (e.g. modem) or <CR> for all:
```

Type the word **skipfinder** and press <Return>. The system will respond:

```
Oldest file in days or <CR> for all:
```

Press <Return>. CompuServe will display a description of the SkipFinder program. After the description, type **DOW <Return>**. You will see yet another menu listing the four available downloading protocols. Choose number 1 (Xmodem). The system will respond:

```
Starting XMODEM transfer
```

Skip the next two parts of this article, which describe how to find the Delphi and GEnie data libraries, and go to the Downloading section.

Delphi

When you first log onto Delphi, you see the main Delphi menu, identified by the MAIN> prompt. Type **GR MAC <Return>** to reach ICONtact, the Delphi Macintosh user's group. You are asked if you wish to join the group. Answer yes. You see the main group menu, identified by the MAC> prompt. Type **DAT <Return>** to go to the database area. The Databases Available menu with the TOPIC> prompt is displayed. Type **USE <Return>** to select the user supported section of the database. Now you see the User Supported Software menu and the USE> prompt. Type **DIR <Return>** to see a directory of all the items in the user supported section. Type **REA Skipfinder <Return>** to read the description of the files under the Skipfinder heading. There are two files, Skipfinder 5.3 and Skipfinder 5.1. You want the first one, so type **XM 1 <Return>** to tell Delphi you want to download the first file using xmodem. Delphi will respond:

```
Ok, receive! (blocked)
```

This means Delphi is ready to send the file to you. Now skip ahead to the Downloading section.

GEnie

Once you've logged into GEnie, you can either navigate through the menu system or go directly to the Macintosh SIG by typing M605<Return> (this means "go to menu 605"). In the Macintosh SIG, menu selection 3 takes you into the library area. In this area, menu selection 2 gives you a directory of available files, and menu selection 6 allows you to download a file.

When you select downloading, GEnie will ask for a file name or number. To download the SkipFinder, type SKIPFINDER6.0<Return>. GEnie will show you a brief description of the file, followed by:

QUED™

PROGRAMMERS, TEXT HANDLERS AND MODEM USERS

YOUR JUGGLING ACT HAS JUST BECOME EASIER

(Quality Editor for Developers)
The powerful, versatile tool for programmers, text handlers and modem users. Ideal for all ASCII text handling tasks.

- Saves time
- Increases productivity
- Prevents errors and frustrations
- Packed with convenience features

- Open 100's of files
- Globally search & replace
- Edit while printing
- Define & check parentheses
- Use HFS & MDS
- 2 disk save
- Zap Gremlins
- Auto number lines
- Tile or stack windows
- Edit transfer menu

And too many other features to list.

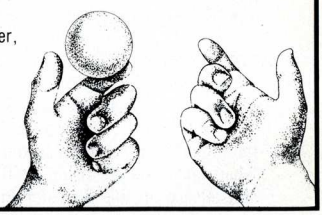
QUED™ $65. plus $3 shipping

Inquire about DiskOrder™; your efficient disk file backup and organizer. $50.

For more information or to order, write or call:

Paragon Courseware
4954 Sun Valley Rd.
Del Mar CA 92014
(619) 481-1477
Visa or MasterCard accepted

QUED and DiskOrder are trademarks of Paragon Courseware.



DESMET C $150*

Macintosh ™ Development Package

Runs on both **128K** and **512K Macintosh**
Full **K&R** Compiler — **IEEE** Floating Point
>450 Function Macintosh **ROM** Library
Assembler, Linker & Librarian
>120 Function STDIO Library
Machine Code Debugger
Source Code Editor
"Shell" interface
300 Page manual
RAM Disk

Published and sold direct to the end-user by:

C Ware Corporation
P.O. Box C, Sunnyvale, CA 94087
(408) 720-9696

*Price includes domestic shipping. Canada $5. Europe/Asia add $20. Call to **charge by VISA, MC or AMEX.** Street address: 505 W. Olive, #767, Sunnyvale, CA 94086.

Macintosh is a trademark licensed to Apple Computer, Inc.

```
Press <RETURN> to download, <S>kip, <L>ist, or
<Q>uit.
```

Type <return>. GEnie will tell you how many XModem blocks are in the file, and when it's ready to transfer the file, it will send:

```
File is ready. Start your receive file.
```

At this point you should start your file transfer program. When it finishes, press <Return>. GEnie will ask if you want to download another file. Respond with yes or no and a <Return>. No returns you to the library area menu.

DOWNLOADING

Now we're ready to download the Skipfinder program described in the first half of the column. Let's see how it's done using three different telecommunications programs. Make sure there's enough room on your disk. You'll need about 8K.

Smartcom II

Smartcom II, produced by Hayes, is a telecommunications program available in retail stores, as well as through mail order outlets. Before receiving a MacBinary file with the Xmodem protocol, you must let Smartcom II know what mode you are using. Pull down the Settings menu and release on File Transfer Protocol. A dialog box is displayed that lets you select between Transfer Entire File (MacBinary format) or Transfer Data Only (HQX format). Select the Transfer Entire File option.

Click on OK, and Smartcom will return to the CompuServe or Delphi screen. To start the download, click on the Smartcom icon at the bottom of the screen. It looks like a piece of paper and an open envelope, labeled *recv*. In the standard file name dialog box enter a name for the new file, and click on the Begin button. The window in **Figure 1** is displayed.

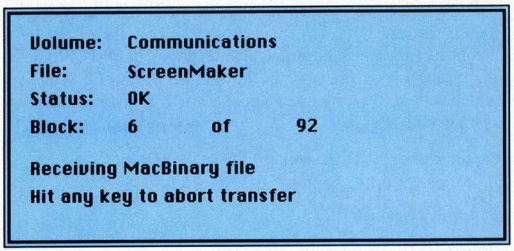
As the file is sent by CompuServe or Delphi and received by Smartcom, the smiling face counts up the number of successfully received blocks. The sad face shows how many retries had to be made. When the transfer is complete, the status window will go away, and you will be returned to the CompuServe or Delphi screen. Press <Return> to signal to CompuServe that you are done. Delphi requires no <Return>.

Red Ryder 7.0

Red Ryder 7.0 is a shareware telecommunications program available from the author as well as from MAUG and user groups. No prior setup is required to use Red Ryder for the Xmodem MacBinary transfer. Simply pull down the File menu and release on Receive File– Xmodem. A receive file name dialog box appears. Enter the file name and disk on which to store the file. Click on the Save button to begin the transfer.

A status bar will appear at the top of your screen, right below the menu bar (**Figure 2**). It tracks the progress of the transfer, displaying the percentage of the file that has been received, the number of bytes received and remaining, and the number of blocks with errors. When the transfer is finished, the status window closes and you are returned to the CompuServe or Delphi screen. If you are on CompuServe, press <Return> to end the transfer; Delphi ends automatically.

FIGURE 3: FreeTerm 1.7 Receive File Status Window



FreeTerm 1.7

FreeTerm 1.7 is a public domain program distributed on MAUG and through user groups. It is also available on the Apple Software Supplement disk. FreeTerm works well for transferring files to and from a network once you are connected. It does not provide all the bells and whistles of a program like Red Ryder or Smartcom II, such as auto dialing or scripts (you have to send commands manually to your modem), and it does not allow many transfer protocols.

In FreeTerm, pull down the File menu and release on Xmodem Receive. Type the file name in the file dialog box. A default name of Rcv.file is stored in the edit field, so if you want, you can simply click on the Save button to continue the transfer. The file transfer begins, and a status window in the middle of the screen shows the number of blocks to be sent and the number that have been received (**Figure 3**).

When the transfer is complete, the status window goes away, and you are returned to the CompuServe or Delphi screen. If you are on CompuServe, press <Return> to end the transfer; Delphi ends automatically.

COMPLETING THE TRANSFER

If there are any problems when the transfer first starts, timeouts may occur. This means that the telecommunications program and the on-line service are not in synchronization. Allow a few timeouts to occur before you assume things are not working. If after a few minutes the transfer still does not start, you either have a very noisy telephone line, or there are a lot of users logged in, which is slowing things down too much. In either case, you will have to try another time.

If the transfer was successful on CompuServe, type T<Return> to go back to the DL8. prompt. From here you can browse through more files to download or type BYE to log off. On Delphi, type EX to return to the USE prompt. From here, you can read more file descriptions, or type BYE to log off. Return to the Finder. You will

now find the SkipFinder program on your disk, with its own icon, ready to go to work. Use the Font/DA mover to install it in your System file.

The process of transferring a file does not take long, but the concepts are complex. Future telecommunications systems will make all of this much easier.

SUMMING UP

You now know how to get your hands on great programming tools and utilities for practically nothing. We warn you right here and now — downloading is addictive. So many new programs go on-line each day that it's nearly impossible to keep up. One way to save time and money is to call into your on-line service, and just download the bulletins that describe the newest files. Examine the descriptions and whittle down the list before starting to download. Let us know what programs you like. This month my favorite is Dissolve — a program that demonstrates wonderful visual merges from a MacPaint image on one screen to another. The pixels of the original image slowly, randomly disappear as the pixels of the new image appear. It uses a special DissBits technique explained by Mike Morton, the author of the program.

ADDRESSES

CompuServe, P.O. Box 20212, 5000 Arlington Centre Blvd., Columbus, OH 43220, (800) 848-8199 (voice), in Ohio (614) 457-0802 (voice).

Delphi, General Videotex Corporation, 3 Blackstone St., Cambridge, MA 02139, (800) 544-4005 (voice), in Massachusetts (617) 491-3393 (voice).

GEnie, 401 N. Washington Ave., Rockville, MD 02850, (800) 638-8730 (voice), (800) 638-8369 (modem).

Smartcom II, Hayes Microcomputer Products, Inc., P.O. Box 105203, Atlanta, GA 30348, (404) 441-1617. Price: $119.

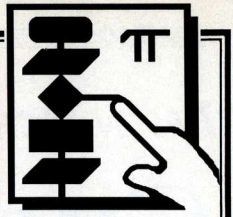
Red Ryder 7.0, The Freesoft Company, 10828 Lacklink, St. Louis, MO 63114, (314) 423-2190. Price: $40.

Berkeley Macintosh User's Group, 1442A Walnut St., Suite #153, Berkeley, CA 94709. Membership fee: $15.

The Boston Computer Society, One Center Plaza, Boston, MA 02108. Membership fee: $28.

Club Mac, 735 Walnut St., Boulder, CO 80302. Membership fee: $35.

Painless Programming



Let's face it. When you're writing MS BASIC programs, it's a pain to lay out Windows, change Patterns, or create Music and Sound Effects. You can spend hours calculating coordinates or figuring wave forms, and hours more using trial and error to get them just right.

The Nibble Mac Utility Pack is a collection of programs that takes the guesswork and drudgery out of writing MS BASIC programs. It actually writes program routines that you can paste into your programs — automatically!

The Nibble Mac Utility Pack includes:

- Window Dresser for foolproof window design. Use the mouse to draw the window, select button types and add edit fields. Window Dresser does the rest. . .creating the MS BASIC program code that draws the window from within your own programs.

- Cursor Editor for creative cursors. Use FatBits precision to design your custom cursor, and build a library of cursor routines to add to your programs.

- Pattern Designer for perfect patterns. Point and click for your choice of background or fill patterns. DATA statements are produced automatically.

- Wave Editor for a musical Mac. Customize the Mac's four voices by designing wave forms with the mouse. Sound effects and music magic!

And **More. . .**we've included more programs that originally appeared in Nibble Mac. Use **List Master** to format BASIC listings with margins, page breaks, and your choice of Imagewriter fonts. And **Type** shows you how to examine text files. You'll also get sample programs that show you how to use Edit Fields, Buttons and Menus in your BASIC programs. All with reprints of the original Nibble Mac articles that provide full explanations and line-by-line descriptions.

Bonus! We've included some of our favorite programmers' desk accessories: **BCS Clicker** (displays mouse coordinates), **Hex Calculator** (for easy number conversion), and **ASCII** (a chart of keyboard characters and their ASCII equivalents).

Start saving programming time today! Let the Nibble Mac Utility Pack write your programs for you!

☐ **I want Nibble Mac Utility Pack! Here's my $29.95.** (Please add shipping — see below)

Name _____ Address _____

City _____ State _____ Zip Code _____

I've enclosed a check or money order ☐

Charge my: Visa ☐ MasterCard ☐

Credit Card Number _____ Expiration Date _____

Signature _____ Telephone Number _____

Mail to: Nibble Mac, 45 Winthrop Street, Concord, MA 01742

For phone orders call (617) 371-1660

Shipping charges: For U.S. shipments, add $1.50; outside the U.S., add $2.50. Mass. residents add 5% sales tax. Payments must be made in U.S. funds only.

TIPS 'N TECHNIQUES

SECRETS OF MACPAINT

by the Nibble Mac Staff

Discovering more of MacPaint's features and shortcuts has become a standard Mac community activity. It seems that there is no end to the obsure or undocumented features of this classic Mac program.

Here are some of the best power user tips for MacPaint, culled from the reports of keyboard sleuths and Bill Atkinson's confessions to user groups:

The quickest way to undo an action is to press the tilde (~) key (the one in the upper-left corner of the keyboard). Another press of the key undoes the undo.

Pressing the <Backspace> key deletes any area selected by the marquee or lasso. Faster than cutting!

While using the pencil tool, holding down the command key (⌘) and clicking the mouse button gets you into FatBits, with the display showing the section of the picture that was pointed at by the pencil. Repeating the process returns you to the full screen. Double-clicking the pencil icon will also turn FatBits on and off.

When you're using the pencil tool, holding down the <Option> key turns the pencil into the Grabber so that you can move the viewport. This is especially handy in FatBits.

Double-clicking on the marquee icon will select the entire window. Double-clicking on the eraser icon will erase the entire window. Double-clicking on the grabber icon is a quick way to invoke Show Page. Double-clicking on the paint brush icon will let you change the brush shape. Double-clicking on any pattern lets you edit the pattern, and makes it the active pattern. These techniques will also work while you're in FatBits.

While typing in text, pressing the <Enter> key will let you use more than one font style or size in the same line. You won't be able to edit text you've typed in before pressing <Enter>, however. Holding down the command key while pressing the period (.) key will select the next largest font size. Holding down the command key while pressing the comma (,) will select the next smaller font size. Holding down the <Shift> and command keys while pressing the comma or period will select the previous font or the next font in your menu, respectively.

Keeping the grid on while entering text will make it easier to later align new text next to it. Be sure to have the grid on when you're entering the text to be aligned.

Holding down the <Option> key while drawing boxes and circles causes the border to be drawn in the active pattern rather than in black. The thickness of the border is determined by the line width you set in the lower-left corner of the MacPaint screen.

Holding down the <Shift> key produces an effect called "constrain" on nearly any function. Drawing rectangles and ovals while holding down the <Shift> key produces perfect squares and circles, and lines are drawn at perfect 45 or 90 degree angles. An object may only be dragged horizontally or vertically, not diagonally.

Multiple copies can be made by holding down the <Option> and command keys while dragging a highlighted object. Dragging slowly will produce evenly spaced duplicates. The spacing between the duplicated objects is controlled by the line width setting. Holding down the <Shift> key while you're doing this (Bill Atkinson calls it the "three-finger stretch") makes multiple copies that are aligned horizontally or vertically.

Holding down the command key while using the paint brush or spray can will cause your paint to go "under" objects that are already on the screen — sort of a watercolor effect. Experiment!

You can change the size of an object by cutting (or copying) it, using the marquee to select a rectangle of the desired size, and then pasting in the selection. The object will be scaled to fit inside the rectangle.

USER VIEWS

MACINKER

Tired of gray printouts from your Imagewriter? This review describes a product that will end the dried out printer ribbon blues.

A Fountain of Youth for Printer Ribbons

Reviewed by Loftus E. Becker, Jr., 41 Whitney St., Hartford, CT 06105

Remember how nice your Imagewriter printouts looked when the ribbon was new? Even standard-quality print was crisp and clear. But if you've had that ribbon for quite some time, you're probably using high-quality mode just to get the print acceptably dark. Of course, you could buy another ribbon, but at $9.95 each (list price) and maybe $5.00 through mail order, that old ribbon better hold out for another week or so.

If this sounds like you, there is an alternative. MacInker — a product that, despite its name, predates the Macintosh by more than a year — is a small, though not inexpensive, device that reinks your own fabric printer ribbons. It will not reink carbon ribbons.

In many circumstances MacInker will allow you to recover its cost in less than a year. The machine itself comes in two forms. The less expensive version works with a specific kind of ribbon cartridge and costs $60. For $70, you can get a "universal" MacInker that, although not truly universal, will work with many different ribbon cartridges when mated with an adapter ($10 more) for the one you want to use. Ink is $3.00 a bottle, which the manufacturer estimates will reink about 50 ribbons. My review covers the universal model (I thought I might buy a different printer sometime) but, except for the physical description, my comments apply to the Imagewriter-specific model, as well.

The machine is a small platform on legs (about nine inches square) with a few spindles on the top to hold the ribbon cartridge and spool the ribbon around a felt reinking pad. It appears to be well constructed and should last a long time. Spare parts, including several colors of ink to reink colored ribbons, are readily available from the manufacturer. Setup takes about 30 seconds: you plug it in and remove the plastic cover that fits over the reinking pad.

Operation is simple and should be no trouble to anyone. Just remove the ribbon cartridge from your printer, and position it in the MacInker according to the supplied diagram. Pull the ribbon out of the cartridge a little, and loop it around the felt reinking pad (use gloves to prevent getting ink on your fingers). Turn on the motor and let it run for a while. Fifteen minutes or so works well for me. It is best not to overink the ribbon, or you will have problems with smudges on your printouts until the excess ink wears off.

The ribbons can be used immediately after reinking, but it is better to put them on the shelf for a day or so to let the ink distribute itself evenly. The first time you reink a ribbon, you have to prime the reinking pad by filling the small reservoir on the top of the pad with ink and letting it sit for a half an hour or so. Thereafter, just fill the reservoir before reinking.

There are a few disadvantages to reinking your own ribbons. It takes a small amount of your time. You have to find a place to store the machine and ink — a minor problem for some, but perhaps a larger problem for those with small, inquisitive children. Reinking is slightly messy at best, and potentially ghastly if you spill the ink bottle on the carpet. And, presumably, even reinked ribbons won't last forever. The manufacturer responded to my initial inquiry by sending me a letter printed (they said) on an Epson ribbon that was on its 18th reinking and still going strong. But at some point even the strongest fabric will wear, and there is some potential for damaging the print head if a pin catches in the fabric. I have heard a number of people worry about this problem. I have never known anyone to be caught by it.

Is MacInker a worthwhile investment? That's up to you. At a conservative estimate of $5 saved per reinking, the machine will pay for itself when you've reinked about 16 ribbons. Depending on how heavily you use the printer, this may take you a year or two. If you can split the cost with a few friends you'll get your money back in months.

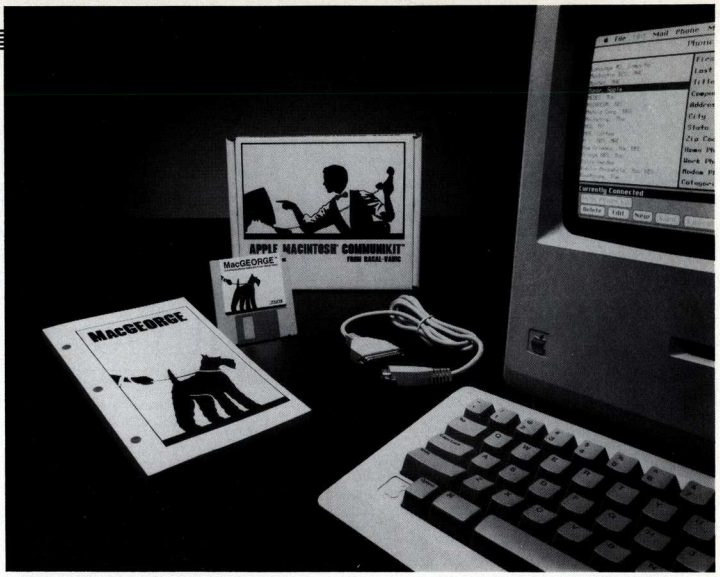
From my perspective, far more important than the cost factor is the convenience of reinking ribbons at home. When I bought new ribbons I worried about how gray to let them go before slipping in a new one. Those worries are now a thing of the past. I have about 10 ribbons and as soon as I notice that one is below par, I take it out and pop in a freshly inked one, reinking the old ribbon whenever it is convenient. The print looks better, and those who have to read what I write are much happier.

MacInker works as promised. It isn't cheap; but if you use a lot of fabric ribbons and would like to save money on them — or if you think your printouts look distressingly gray — it is worth your serious consideration.

MacInker, Computer Friends, 6415 S.W. Canyon St., Suite #10, Portland, OR 97221. Price varies from $60 to $80, depending on configuration.

ON THE MAC SCENE

Edited by Sharon Stentiford



PROANALYSIS is a comprehensive and flexible real estate investment analysis program. It combines detailed data input modeling with sophisticated calculations and variance capabilities to provide performance measures (such as profitability and financing analysis) that reflect the value of realty investments. PROANALYSIS runs on the Macintosh 512K and XL, and is priced at $295. Contact: **Technalysis Services, 14555 DeBell Rd., Los Altos Hills, CA 94022, (415) 949-4176.**

BENCH SHEET-1 SYSTEM is a laboratory data management program for water and wastewater treatment operations. It provides for the storage of bench data and the calculation of results for such analyses as BOD5, total solids, suspended solids, volatile solids, dissolved solids, COD, oil and grease, alkalinity and others. The program is available in versions for the Apple //e, //c and Macintosh, and is priced at $795. Contact: **Systems/Services Engineering, 3648 Eastern Dr., Dayton, OH 45432, (513) 429-2709.**

PACPAINT is a file compression utility that squeezes MacPaint files down to 30% of their original size. Each MacPaint file takes 40% to 70% less space on a disk. Phone costs to telecommunicate a packed file are reduced by the same amount. The price is $39.95. Contact: **Mainstay, 28611B Canwood St., Agoura Hills, CA 91301, (818) 991-6540.**

THE APPLE MACINTOSH COMMUNIKIT is a communications package designed to eliminate the confusion and guesswork encountered in connecting your Mac to a modem. It includes MacGEORGE, a communications program featuring standard terminal functions, an electronic mailbox, and database management capability (128K is required). Also included are free access to on-line information services and a computer-to-modem interface cable. The price is $79. Contact: **Racal-Vadic, 1525 McCarthy Blvd., Milpitas, CA 95035, (408) 946-2227.**

LIGHTSPEEDC is a high-performance C compiler created for Macintosh software developers. The package includes three disks and a user manual. The disks contain: LIGHTSPEEDC; Macintosh and Unix compatibility libraries and sources; Lightspeed utilities RelConv and Compare; Apple utilities RMaker, ResEdit, MacsBug; and LIGHTSPEEDC demo programs. The price is $175. Contact: **THINK Technologies, Inc., 420 Bedford St., Lexington, MA 02173, (617) 863-5590.**

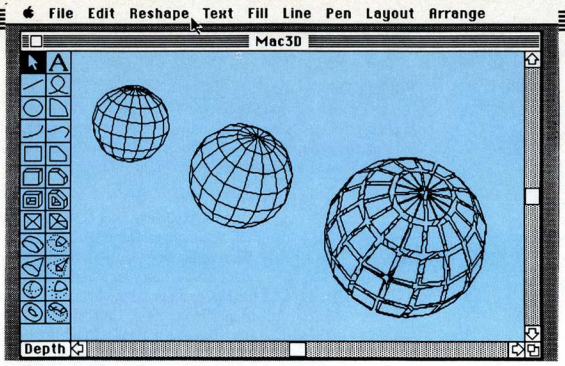
MACSMARTS is an integrated artificial intelligence (AI) based desktop productivity tool for knowledge workers. It integrates logical rules and rule schema induced from examples into a single conceptual framework, termed a Logic WorkSheet. By making an easy-to-construct knowledge base (or expert system) — consisting of facts, rules and examples — in the Logic WorkSheet, knowledge workers can use deductive and inductive inferencing techniques to diagnose and solve problems, plan, design or carry out other idea-oriented tasks. MACSMARTS requires a 512K Mac or Macintosh Plus, and is priced at $150. Contact: **Cognition Technology Corp., 55 Wheeler St., Cambridge, MA 02138, (617) 492-0246.**

DISK•BOOK 10 and DISK•BOOK 32 are holders for transporting and storing 3 1/2 inch disks. They hold 10 and 32 disks, respectively, in individual pockets. The holder opens like a book for fast selection and easy return to storage. It closes securely with a top seal and Velcro side fastener, so disks don't fall out — even when the DISK•BOOK is upside-down. DISK•BOOKs are available in a variety of colors in anti-static nylon material which is stain resistant and liquid repellent. For orders of 50 or more, MicroStore offers custom-designed, silk-screened or embroidered logos. Alternate colors are also available. Single orders cost $34.95. For information, contact: **MicroStore, Inc., P.O. Box 37, St. Peter, MN 56082, (800) 962-8885; in Minnesota (612) 665-3045.**

INTERLACE merges the power and capacity of a fully relational database, the calculation capability of a spreadsheet, and the flexibility and ease of use of

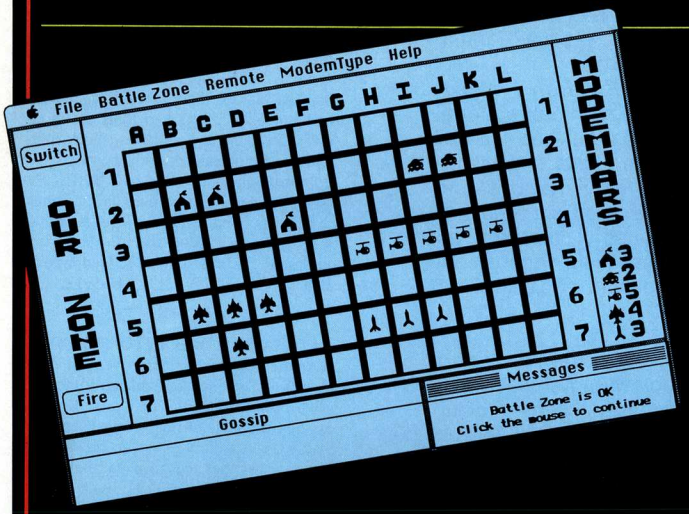
visual layout into one unified software package. It is designed to be particularly useful in complex tasks such as "what if" tax models, portfolio analysis, client billing, cash flow management, and list and mail merge processing with calculated data. INTERLACE runs on the Mac 512, and can take advantage of the enhanced features of the Macintosh Plus or 20 MB Hard Disk 20. The introductory price (through May 15) is $95. Contact: **Singular Software, Inc., 5888 Castano Dr., San Jose, CA 95129, (408) 446-0207.**

WIZARDRY: PROVING GROUNDS OF THE MAD OVERLORD, the first scenario of Sir-Tech's best-selling Wizardry fantasy role-playing games, is now available for the 128K and 512K Mac. This version utilizes mouse input, pull-down menus and overlapping "zoom" windows. It also uses the Mac's added memory and processing power to give the player more and better information than was possible with other computers. The price is $59.95. Contact: **Sir-Tech Software, Inc., 6 Main St., Ogdensburg, NY 13669, (315) 393-6633.**



MAC3D is a graphics package for the Macintosh that simplifies the creation and manipulation of two- and three-dimensional graphics. It features one-degree rotation of objects, custom patterns, and the ability to reshape basic "building block" objects into more complex forms. The package can be used with the Imagewriter and Laserwriter printers. MAC3D requires at least 512K and an external disk drive or hard disk, and is priced at $195. Contact: **Challenger Software, 18350 Kedzie Ave., Homewood, IL 60430, (312) 957-3475.**

MACANATOMY is an electronic atlas of human anatomy presented on disk for the Macintosh. It is comprised of four volumes that may be purchased separately or as a collection. The illustrations are in MacPaint format and can be easily modified. Diagrams can be merged into MacWrite documents using the Clipboard. The price is $95.00 per volume (schools get a 20% discount), plus $2.50 shipping and handling (TX add $5.82 tax). Demo disks are also available. Contact: **MacMedic Publications, Inc., 5805 Westheimer, Houston, TX 77057-5616, (713) 977-2655.**

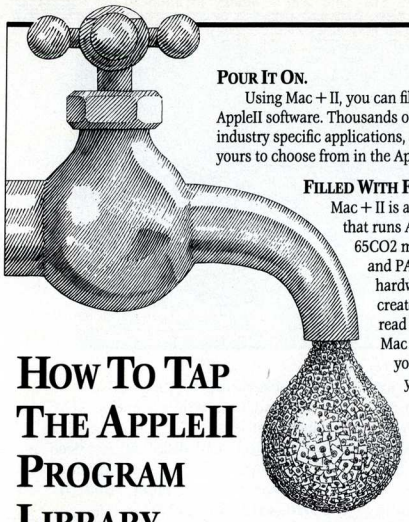


ModemWars

Modem Wars is a strategy war game played by two players via modem. Try to destroy all three of your opponent's bomb shelters, or all of his other pieces, before he destroys all of yours! Players take turns firing shots at each other's battle zones. A Gossip mode lets you send taunts and threats to your opponent.

Play between two Macs over a modem/phone connection or with a local cable connection. When you order Modem Wars for just $19.95, you get two copies of the program — one for you and one for a friend! Download a free demo of Modem Wars from either CompuServe (DL4 of MAUG) or Delphi (Mac Icontact Database, games section)

Modem Wars works with Apple, Hayes and all dumb modems. Order Modem Wars by sending $19.95 (postpaid) for two program disks to MicroSPARC Inc., 45 Winthrop Street, Concord, MA 01742. Visa and MasterCard orders accepted — for phone orders call (617) 371-1660 or call the Nibble Hot Line at (617) 369-8920 and order on-line. Payment must be in U.S. funds only; Mass. residents please add 5% sales tax.



POUR IT ON.

Using Mac + II, you can fill your Macintosh to overflow with AppleII software. Thousands of routines, graphics programs, games, industry specific applications, utilities and, of course, AppleWorks are yours to choose from in the AppleII program library.

FILLED WITH FEATURES

Mac + II is an AppleIIe emulator (128k, 80 column) that runs Applesoft, Integer BASIC, 6502 and 65CO2 machine language, DOS 3.3, ProDOS and PASCAL 1.3 on your Mac without any hardware add-ons. With Mac + II, any disk created by the Apple UniDisk 3.5 can be read in your Macintosh disk drive. Use Mac + II on your Macintosh Plus and you have a 512K Apple II RAM disk at your disposal.

Communications software included with Mac + II allows transfer of a program and its files.

HOW TO TAP THE APPLEII PROGRAM LIBRARY FOR YOUR MACINTOSH.

meacom

P.O. Box 272591, Houston, TX 77277
(713) 526-5706, Telex: 4945935

Money Back Guarantee. VISA and MC accepted. Mac + II is written by David Hemmo. Mac + II ($149.95) emulates an AppleII + or an enhanced AppleIIe and requires a 512k Mac or Mac Plus. Not copy protected. **New For AppleII Owners:** Meacom now offers UniDOS ($35.00) which is DOS 3.3 for the Apple II UniDisk 3.5. Apple, Macintosh, AppleWorks, UniDisk 3.5, ImageWriter and ProDOS are trademarks of Apple Computer, Inc.UniDOS is a trademark of Meacom.

HEBREW MAC SOFTWARE!

Davka Corporation presents two Hebrew/English productivity programs for your Macintosh:

Achbar--the complete Hebrew/English Word Processor...Achbar is a bilingual, bidirectional Hebrew/English word processing program that uses all MacWrite fonts, and three special Hebrew fonts. Imagine the ease of mouse-based word processing in **Hebrew and English!** Switching between Hebrew/English is a snap, and the program incorporates such useful features as search-and-replace, mail merge, and more. Achbar will work on any Macintosh with a minimum of 128k. **Just $199**

Notzah--Database efficiency in Hebrew and English....Notzah is a powerful Hebrew/English database, spreadsheet, and integrated software package. Set up records, fields, and files in **Hebrew and English!** Notzah meshes with Achbar for mail merge and other applications. Notzah will work on any Macintosh with a minimum of 512k. **Just $199...Special combined introductory price for both Achbar and Notzah--$349** *Major credit cards accepted. For more information, call or write:*

Davka Corporation
845 N. Michigan Ave.
Suite 843
Chicago, IL 60611
1-800-621-8227

Davka® CORPORATION

FANNY MAC cools your Mac by 50 degrees or more, thus reducing the chance for component failure due to excessive heat. It uses quiet ball bearing fan mechanisms. FANNY MAC fits discreetly into the handle recess on your Mac to maintain the Mac's sleek appearance. The package includes a surge suppressor and is priced at $99 plus $5 shipping. Contact: **Beck-Tech, 41 Tunnel Rd., Berkeley, CA 94705, (800) 227-2400, ext. 999.**

THE HD-20 and HD-30 are a 20 MB and a 30 MB hard disk drive, respectively, for the Macintosh Plus. They utilize the Small Computer System Interface expansion port, taking advantage of data transfer rates 16 times faster than hard disks which use the serial or drive ports. The drives are designed for ease of installation and come with all necessary cabling. Both drives support the new Hierarchical File System (HFS) and will boot automatically. The HD-20 is priced at $1,095 and the HD-30 costs $1,595. Contact: **MDIdeas, Inc., 1111 Triton Dr. #205, Foster City, CA 94404, (415) 573-0580.**

MAC THE LINGUIST 2 is a set of Macintosh fonts that include all the letters and symbols needed to do word processing in a number of languages that cannot be typed in using the standard Macintosh fonts. The fonts provide 217 printing symbols, including 129 not found in standard Macintosh fonts. Called LinguistG and LinguistNY, the two fonts are modeled on the Geneva and New York fonts and can be coresident with them, so symbols from standard and MAC THE LINGUIST 2 fonts can be used in the same documents. The price is $70 (CA add 6.5%). Contact: **Megatherium Enterprises, P.O. Box 7000-417, Redondo Beach, CA 90277, (213) 545-5913.**

THE APPLE MACINTOSH BOOK, second edition, is a revised version of Cary Lu's best-seller. It includes the latest inside-track information on new and existing products. After giving concise instructions on how to set up the Macintosh, Lu assesses the growing amount of Mac software. The book is divided into sections by application and discusses graphics, spreadsheets, business programs, integrated software, word processors, and communications software. The price is $19.95, softcover. Contact: **Microsoft Press, 10700 Northup Way, Box 97200, Bellevue, WA 98009, (206) 828-8080.**

Advertiser Index

ASI Products 55
Bay Area Computer Services . . . 31
Bullpenn Products 34
Cauzin Systems, Inc 14-19
Central Point Software, Inc 21
Clear Lake Research 63
Cognition Technology Corp 1
CompuCraft 35
Computer Friends 20
CWARE Corporation 65
DataViz, Inc 48
Davka Corporation 72
Hayes Microcomputer C2
International Apple Core 7
Kelor 21
Lionheart 45
Mac Rentals 30
MacTutor 62
Meacom 72
Megamax, Inc 62
Microsoft Corporation C4
New Canaan Microcode 34
NIBBLE MAC
Software Catalog 74
Nibble Mac Subscription 51
Northeastern Software 36-37
Pacific Prime 33
Par Software, Inc 63
Paragon Courseware 65
pTerodactyl Software 64
Relational Systems Corp 2
Semantic Microsystems 48
Signature Software 57
SPA C3
Survivor Software Ltd 56
Technisoft Engineering 45
Tom Programs 57
USA-FLEX 32

LightSpeed C
PAC Paint

70

nibbleads

Rates and Deadlines

1X Rate: 250 characters/spaces at $52.50. $10 per additional 50 characters (up to 500 characters).

3X Rate: 250 characters/spaces at $47.50. $8.75 per additional 50 characters (up to 500 characters).

All additional full or partial sets of 1-50 characters/spaces are $12.50 per set.

All ad placement requires prepayment in full *with the issue of first insertion*. Typed copy and prepayment are due at Nibble Mac by the deadline, which is **May 26** for the **July/August 1986 issue**.

For more details on how to place your classified ad, call or write:

Nibbleads for the Mac
45 Winthrop Street
Concord, MA 01742
(617) 371-1660

Utilities

Mac Desk Accessories!
by Jan Eugenides
Global Search — $15
Search your entire HFS disk or hard drive for any file name or type
CrashFix — $10
Saves your RAM disk after a crash
Many More!
Write for free catalog and info:
Assembly Corner, P.O. Box 151, Maynard, MA 01754

MS-BASIC™ programmers . . . **POWER*windows™** lets you quickly build the windows for your programs, complete with buttons, edit fields and text, on the screen with the mouse. The BASIC program lines are generated to the screen, printer or clipboard, ready to paste into your programs. Windows can be filed for later use. Send check for $19.95 (Calif. residents add 6.5% sales tax) to: Lucid Concepts, 14013 Hesby St., Sherman Oaks, CA 91423.

Software

Baseball Statistics
Extensive batting and pitching stats for more than 2,500 active and retired major leaguers (through 1985 season). Also won-lost records for all teams since 1900 and many other misc. baseball stats. Requries Microsoft FILE. For 3-disk set, send check for $27.95 to TopStat, Dept. BB, P.O. Box 673, Jefferson City, MO 65102.

MAC PUBLIC DOMAIN SOFTWARE
Hundreds of useful and entertaining programs for pennies, plus something other companies don't offer; "information disks" and "inventors". To find out what you've been missing; order your catalog today. Send $2 to: Daylight Publishing Co., P.O. Box 1461, Statesboro, GA 30458.

Mac Public Domain Software: 100's available, $10/disk. Games, Multiplan templates, business, finance, real estate, pictures, music, utilities, fonts, desk accessories. Carefully organized with instructions. Send $1 for catalog. EDUCOMP, 2139 Newcastle Ave. Ste N, Cardiff, CA 92007, 619/942-3838.

Accessories

ORGANIZE YOUR DISKS
FREE! NEW! "No Label System" plus many other ideas to help you get DiskOrganized. Call for FREE SAMPLES & Literature. WEBER & SONS, INC., Disk File Sys, Box 104N, Alelphia, NJ 07710, Phone: 1-800-225-0044

COMPUTER TYPING TUTOR
Learn typing for your computer keyboard from an audio cassette — teaches techniques, alphabet reaches, numbers, keypad, symbols, and formatting. To order send $7.95 to KEY-TECH, 8825 S. 84 Ave., Hickory Hills, IL 60457.

Education

See stars on cloudy nights! STARGAZER shows the night sky at your time/location. Constellations & star data (RA/Dec/Mag) at a click. 1200+ stars! For any Mac. $24.95 by check ($26.45 in PA) Mousetrap Software/336 Coleman Dr/Monroeville, PA 15146.

Graphics

Fantasy & Horror Graphics Collection#1 for your Macintosh. The diskette contains over 340k of images. Use as is or alter to suit. $29.95 ($32.05 in CA) ppd in the US. A.A.H. Computer Graphic Productions, P.O. Box 4508, Santa Clara, CA 95054.

Entertainment

Tarot for the Mac™ is the ancient art of foretelling the future updated with a full Macintosh™ interface — menus, windows and printouts. Hours of entertainment and enlightenment. $30 check/money order to Hack & Slash Software, P.O. Box 6066, Santa Maria, CA 93456.

nibble mac software

Unless otherwise indicated, all programs run under Microsoft BASIC, version 2.0 or higher. You do not need to own Microsoft BASIC to run the MS BASIC programs on these disks. A BASIC run-time package is included on each disk.

RADION TYRANT is a black box game in which you battle the Radion Guards to escape from the labyrinth. (Nibble V6 #4)

MACINTOSH CURSOR will let you create a new cursor. If you have MS BASIC 2.0, you can incorporate your new cursor into your own programs. (Nibble V6 #4)

Order Reference [RT]. . . $17.95 + shipping

PROGRAMMER'S CALCULATOR will let you calculate in decimal and hexadecimal while it illustrates the use of buttons and edit fields under MS BASIC 2.0. (Nibble V6 #5)

CAPTURE II is a Macintosh version of the ancient Chinese game of Go, complete with Macintosh graphics. Play against the computer or a friend while your Mac keeps score. (Nibble V6 #5)

Order Reference [CA]. . . $17.95 + shipping

MACSPACE straps you into the battle console for a shooting match with the star cruisers of the implacable enemy — the Klaxxon Slime Rulers! Fast-paced Macintosh arcade excitement! (Nibble V6 #6)

PERPETUAL CALENDAR prints a full-page calendar for each month of any year. (MS BASIC 2.0) (Nibble V6 #2)

Order Reference: [CD]. . . $17.95 + shipping

WINDOW DRESSER makes Mac programming easy — it lets you use the mouse to write MS BASIC program code. You can create windows and dialog boxes, complete with edit fields, buttons, and even text. (Nibble V6 #7)

QUICKDRAW DEMOS I accesses the QuickDraw graphics routines that give the Mac its unique look. Demonstration programs display the Cairo font and the special characters in QuickDraw. (Nibble V6 #7)

Order Reference: [QD]. . . $17.95 + shipping

QUICKDRAW DEMOS II is a set of five listings that demonstrate the use of the Mac's QuickDraw routines from within an MS BASIC program. It includes demonstrations of various text modes, character animation, and the range of available text faces. (Nibble V6 #8)

MBASIC BUTTONS shows you how to use button processing for goof-proof user input on the Mac. (Nibble V6 #8)

Order Reference: [DR]. . . $17.95 + shipping

NIBBLE MAC INVESTOR uses powerful graphing and report capabilities to help you assess your investment portfolio. It calculates short-term and long-term gains and losses, as well as broker commissions.

MACGRAPH turns numerical data into sophisticated line graphs, bar graphs or pie charts, complete with labels. You can use MacPaint to add more elaborate graphics.

QUICKDRAW DEMOS III draws patterns and creates rectangles, ovals and rounded rectangles on the Mac.

PATTERN DESIGNER is an easy-to-use editor that lets you custom design patterns, and save them as DATA statements to include in your programs.

AUTOMATIC MENU RESET breaks out of the break command quandary. Using <Command>. during debugging freezes the display of an inactive menu. This routine maintains the output window display until you move the mouse.

PEEKING THE MAC KEYBOARD demonstrates how to use the <Option> key, <Command> key and other modifier keys within MS BASIC programs to control input.

Sept./Oct. 1985. Order Reference: [VE]. . . $29.95 + shipping

---

NIBBLE MAC FILE CABINET is an electronic filing system that features powerful search options, fast data sorting and reports based on search criteria.

AUTOLOG automatically tracks your computer use by tapping into the Mac's clock. Use it to create a record of the time you spend on specific jobs.

MS BASIC TOOLBOX WINDOWS shows you how to use ROM calls from BASIC to change window titles and sizes, erase the close box and more.

STOPWATCH displays the time of day and elapsed time, just like a hand-held stopwatch. It even measures lap times to the nearest tenth of a second and lets you label them.

Nov./Dec. 1985. Order Reference: [CB]. . . $29.95 + shipping. If you have a 128K Mac, you must own the MS BASIC interpreter to use Nibble Mac File Cabinet. It may be used with the run-time package only on 512K (or larger) Macs.

MACBANKER tracks your checking account records with speedy data entry and updating, a variety of printed reports and check macros for monthly bill paying sessions. (Requires a 512K Mac.)

MS BASIC LIST MASTER prints BASIC listings on the Imagewriter with page breaks and your choice of Imagewriter's built-in fonts.

FRACTAL TREES creates realistic trees using fractal imagery.

TCPEEK is a stand-alone application that displays the creator and type for any Macintosh file, so you know which application program created each file. MDS Assembler source code is included.

ZEN AND THE ART OF MACINTOSH PROGRAMMING is a set of two programs. Select All simulates dragging the mouse through an entire file to highlight it. Show Top lets you select a group of MacWrite files from a dialog box and print out the first few lines of each file.

Jan./Feb. 1986. Order Reference: [BK]. . . $29.95 + shipping

ZOOM is a visual database that lets you zoom in on a portion of a map, a picture, or text. Then zoom back for the big picture.

MACBANNER makes banners for every occasion using a variety of fonts, type sizes and type styles.

I CHING tells your fortune using an updated version of the ancient Chinese casting method called I Ching.

MS BASIC TYPE COMMAND lets you scan text files without leaving MS BASIC. A great programming aid!

THE SAMURAI MAC WARRIOR is a font change program that searches for a particular font and/or point size, and changes every occurrence of it to another font and point size.

March/April 1986. Order Reference: [ZM]. . . $29.95 (Introductory price $19.95 expires 6/30/86) + shipping

---

For a 90-day period following the publication of each issue, NIBBLE MAC will offer the major programs from that issue on a diskette for a nominal "Introductory Price."

Following the 90-day introduction, the program will be offered with reprints of the original NIBBLE MAC articles which documented them. In addition, where specifically noted, the programs will be provided with significant enhancements which have been added to the diskettes.

During the introduction period, disks are shipped without accompanying documentation under the assumption that the buyer has the issue in which the programs appeared.

Please send me the products I have checked.

Name _____

Address _____

City _____

State _____ Zip _____

I am paying by:

☐ Check ☐ Money Order ☐ VISA ☐ MasterCard

Card # _____ Exp. _____

Signature _____

Amount Enclosed $_____ Tel. #_____

Please add shipping to all prices: U.S. shipments please add $1.50 for shipping and handling. Outside U.S. add $2.50 for the first disk ordered and $1.00 for each additional disk ordered. MA residents add 5% sales tax.

Mail this order form to:

Nibble Mac, 45 Winthrop St., Concord, MA 01742

INTRODUCTORY PRICE OFFER

SP ☐ **MacSPRINT/Cursor Editor/MS BASIC Program Shell** . . . May/June 1986. Introductory price **$19.95** expires 8/31/86.

ZM ☐ **Zoom/MacBanner/I Ching/MS BASIC Type Command/The Samurai Mac Warrior** . . . March/April 1986. Introductory price **$19.95** expires 6/30/86.

BK ☐ **MacBanker (requires 512K Mac)/MS BASIC List Master/Fractal Trees/TCPeek/Zen and the Art of Macintosh Programming** . . . Jan./Feb. 1986. **$19.95.**

The disks below are listed according to the first program on the disk. Each disk contains multiple programs; see the complete descriptions above.

RT ☐ **Radion Tyrant** Nibble V6/#4. **$17.95**

CA ☐ **Programmer's Calculator** Nibble V6/#5. **$17.95**

CD ☐ **MacSpace** Nibble V6/#6. **$17.95**

QD ☐ **Window Dresser** Nibble V6/#7. **$17.95**

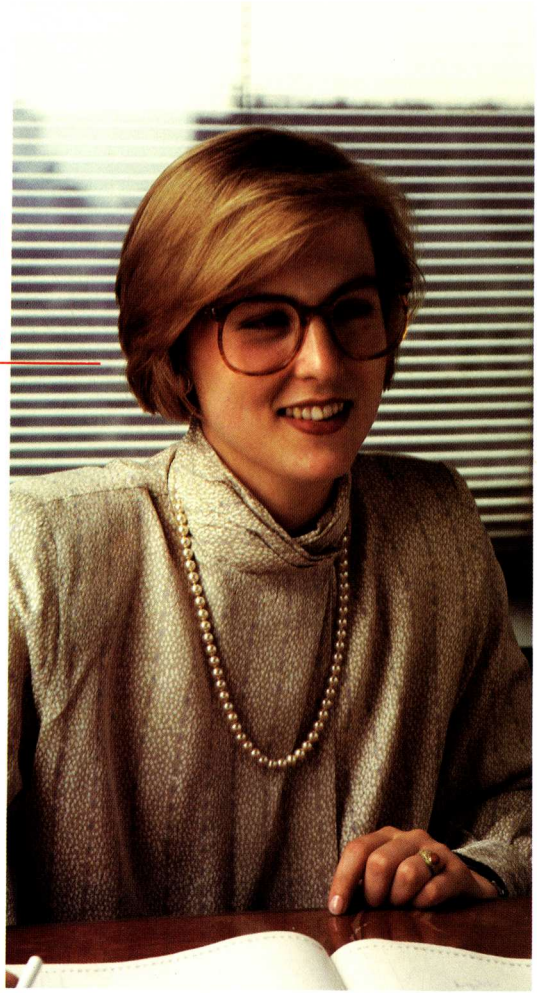
DR ☐ **QuickDraw Demos II** Nibble V6/#8. **$17.95**

VE ☐ **Nibble Mac Investor** Sept./Oct. 1985. **$29.95**

CB ☐ **Nibble Mac File Cabinet** Nov./Dec. 1985. **$29.95**

BD ☐ Five-pack of blank 3.5-inch single-sided disks. **$12.50** with any order for Nibble Mac software. Price includes shipping.

a common criminal.



She doesn't look like a common criminal. But she just copied software illegally. It's not a common crime. It's a Federal offense.

The unauthorized duplication of copyrighted software is a violation of United States and Canadian Copyright Laws, and is punishable in civil and criminal court by fines and imprisonment.

This common criminal wouldn't dream of stealing money from someone's wallet. She's got her principles. But she doesn't consider that making an illegal copy of a program is just like stealing money from the people who created that program. And she doesn't consider that everyone will pay for her crime—by paying higher prices.

If you know people who make illegal copies of software, tell them they're breaking the law. Help stop this crime before it becomes any more common.

The unauthorized copying of software is a crime.

SPA Software Publishers Association
Suite 1200
1111 19th Street, N.W.
Washington, D.C. 20036

Created by Halcyon Associates, Brooklyn, New York.

New Faster Version 2.1

The most BASIC.

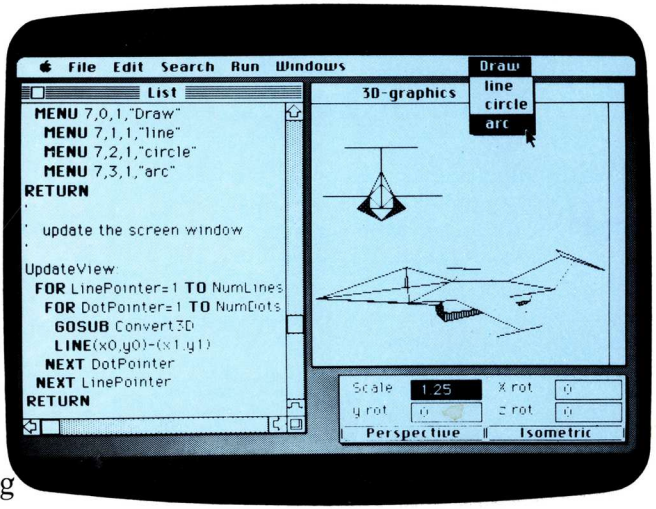
Microsoft® BASIC is the language spoken by nine out of ten microcomputers worldwide. It's the language with the most programs written for it.

So if you want to access the power of your Macintosh,™ only one language makes the most sense. Mac's first language, Microsoft BASIC.

Not only is it the industry standard, it's the most advanced BASIC for Macintosh. It lets you add mouse commands. Graphics. Windows. Change type fonts and styles. Customize menus. Incorporate music and sound effects. Write your own dialog boxes. Basically, it lets you take advantage of everything that makes Mac 'Mac.'

It makes editing programs as easy as cutting and pasting and pointing and clicking. Debugging is easier than ever with the advanced trace command.

It's no wonder Microsoft is the most logical choice for the Macintosh.



MICROSOFT®
The High Performance Software™

We've written more Macintosh programs than any other software company. Including Mac's spreadsheet, Multiplan.®

So if you want to get the most out of your Macintosh, call (800) 426-9400. In Washington State and Alaska, call (206) 828-8088. In Canada, (416) 673-7638.

Microsoft and Multiplan are registered trademarks and The High Performance Software is a trademark of Microsoft Corporation. Macintosh is a trademark licensed to Apple Computer, Inc.